THE FIRST LORD'S STATEMENT. See p. 436.
TANK STEAMERS OF THE GULF REFINING CO. (Drawings). See p. 441.

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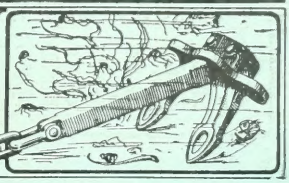

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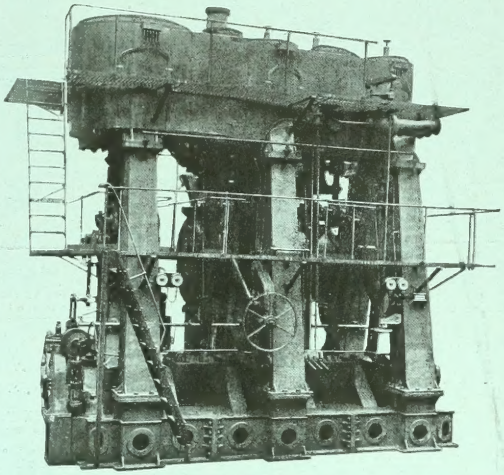

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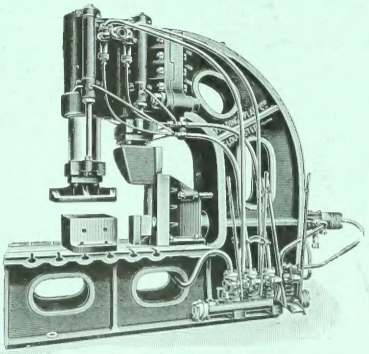

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PRECISELY the kind of answer that might have been expected has been given in the House of Commons on the subject of orders placed by neutrals with British shipbuilders for the construction of steamers. The question which Sir Owen Philipps put, mentioned the report that these orders were for more than seventy large cargo vessels. Sir L. Chiozza Money admitted cognisance of orders "in considerable numbers," and when he indicated that their execution must be postponed to the pressing requirements of the war, he said no more than has been generally assumed. The matter is essentially an after-the-war problem, and consideration has been given to it by the Government from this point of view. "It is clear," Sir L. Chiozza Money states, "that some control over the output of British yards must continue to be exercised after the termination of hostilities. The principle upon which it will be exercised will necessarily depend upon the circumstances prevailing at the time, so that on this point I am not in a position to make any statement." Yet, he adds that the legal advisers of the departments concerned are giving their attention to the form in which the necessary powers should be obtained. All this does not carry us very far. Serious difficulties lie ahead, and some of these arise out of the lack of foresight of the Government. While neutral shipowners have been accumulating millions of reserves, British shipowners have been taxed without heed to the risks and wastage of war. Yet rapidity of recuperation depends on financial strength.

Neutral Orders.

Sir L. Chiozza Money, the Parliamentary Secretary to the Ministry of Shipping, defends his department with an ardent zeal, but sometimes it appears to certain onlookers that his defence is pitched a little too high. Take the question of freights. Nine-tenths of British merchant shipping is under requisition, but freights charged on certain cargoes have risen enormously. The case of tea is an example. Moreover, the figures entered in bills of lading on wheat are very much in excess of the blue book rates. The point has been made by Mr. Runciman and others in Parliament that if vessels are taken over at a cheap rate the whole of the economy should accrue to the consumer. Sir L. Chiozza Money rather resented this line of criticism. He cited the increased cost of bunkers, wages and war risks, as factors which have brought about the necessity for increased freights. Similar factors were at work in the early period of the war, but shipowners then scarcely found so keen an apologist for the rise as the Ministry of Shipping now does. Sir L. Chiozza Money claimed that 85 to 90 per cent. of imports are carried at cost, but he had critics amongst his audience. He admits that uncontrolled imports are carried at a profit in order to prevent money flowing into the pockets of the middleman or the producer abroad. We are inclined to dissent from the proposition that profiteering ceases to be profiteering when the profits find their way to the Treasury.

Freights and Prices.

Nowhere was greater interest taken in Sir Eric Geddes' speech of last week than in the insurance market. Much that he had to say was of importance to that body, and his clear and concise exposition was undoubtedly useful in clearing up several misunderstandings which had crept into existence. On one point alone underwriters would have been glad of greater explicitness. Sir Eric in dealing with ship repairs revealed that some 1,000 vessels per month were being dealt with in dry dock and afloat. This is excellent, but when he added that practically no arrears of repairs existed, the underwriting fraternity would have been grateful if he had explained whether the repairs referred to were permanent or temporary. It has been understood for some time past that vessels have been running with damage unrepaired, in order to meet present contingencies, and on account of that underwriters have anticipated delayed settlements amounting to a considerable figure for these deferred repairs. If Sir Eric would have us understand that there is no further necessity to make provision for these settlements a new situation has arisen in the insurance market. The general impression, however, seems to be that the need for setting aside a certain proportion of premiums to meet claims for deferred repairs still exists, and without a definite assurance to the contrary this is obviously the wisest course to follow.

Sir Eric Geddes and Deferred Repairs.

Although much has happened since we last wrote of the renewal of insurances on vessels whose present policies expire at noon on February 20, 1918, there is little fresh to be said on the present occasion. The insurance market is already busy with these risks and several well-known fleets have been placed during the past week or so, while others are at present being shown in the market. This year there is a further diminution in the number of vessels commencing their insurance on the famous date. The sale of many of them accounts for a certain number, while others—too many, alas—have unfortunately been sunk. Perhaps the outstanding feature this year is that insured values appear to have reached a level at which they remain stationary, whereas last year an increase on the value in the previous policy was practically universal. Rates of course, are subject to the 10 per cent. rise which is obtained on all renewals, while in cases where severe casualties have been experienced a further increase has been

February Renewals.

demanded and obtained. The question may here be raised as to whether underwriting for the past year has been profitable, but it is early yet for any definite opinion to be hazarded. It is true that settlements to date show a fair balance of premiums over claims, in the hull market at least, but whether this can be maintained throughout the second and third year which the 1917 account has yet to run is a matter with which we would prefer to deal in some months' time.

Seamen "Left Behind."

A master of a merchant ship must complete to the letter certain official notifications regarding seamen "left behind abroad." A recent case in the courts enforces this point. The Merchant Shipping Act, 1906, lays down that if a seaman belonging to a British ship is left behind abroad, the master must enter in the official log-book the amount of wages due to the man at the time he was "left behind." What is the exact signification of "left behind?" Would it cover such circumstances as the following? A seaman deserted in an American port, and grounds existed for believing that before his original ship sailed he had joined another vessel, and was possibly on his way to England. Had he been "left behind," or had he not rather gone before? The master, at any rate, noted the fact of the desertion in the official log-book, but did not enter the amount of wages due at the time of desertion. Official notice was subsequently taken of this omission, but it was contended that the seaman could not in the circumstances be properly described as having been "left behind" in America. The High Court, however, held that even in such a case the statute applied, and it followed that an entry as to wages should have been made.

Building of Liners.

In the memorandum which we publish on page 445, the Liverpool Steamship Owners' Association put the position of the liner owner in a nutshell. He has—or rather his tonnage has—been of immense service to the Allies in the prosecution of the war, and, as a consequence, he deserves a little more than ordinary consideration from the State. At the very least, he should be given an undertaking that his business will be restored to him as soon as possible after the end of the war, and that opportunities to replace the losses and repair the wastage of his tonnage will not be denied to him through the utilisation of the available resources for the production of State ships of the liner type. If liners are to be laid down, he claims not only that he ought to be allowed to lay them down, but also that it would be an advantage from the national point of view, both now and after the war, to allow him to do so rather than further to extend the Government's present policy of standardisation. He can, he says, have his own designs of ships embodied as quickly as the State's proposed liners can be built; he would require no more steel than the State's proposal does, and the material would not take longer to produce; the building of his ships would call for no more labour than the building of State liners would. Moreover, ton for ton, his ships would, he undertakes, carry as much deadweight cargo as, and more bulk cargo than, the proposed standardised liners would. If these are facts—and we believe they are—the argument of the companies is, obviously, convincingly sound.

Shipbuilding in India.

If the schemes now being discussed, and in part already made effective, are carried out as proposed, the Empire, as regards shipbuilding, should soon be in an advantageous position. In Canada, as our readers know, good progress is being made; and if at the moment Australian conditions are somewhat uncertain owing to labour unrest, there is the possibility that, ultimately, shipbuilding may be established on a sound basis. Even in Hongkong the output is not inconsiderable. Now, we learn, it is intended to begin operations in India, or, rather, to resuscitate an industry that as far back as the early years of last century was fairly prosperous. At Bombay, for instance, several of the East India Company's fleet were built; but the introduction of steam-driven iron vessels brought activities to an end. Neither the necessary material nor the skilled labour being available for the new class of ship, the dockyard there was, for the time, of no further use. As, however, the war has demonstrated the importance of shipbuilding, an effort is, we understand, being made to establish it on modern lines. Sir Dorab Tata, presiding recently at the annual meeting of the great iron and steel works with which he is connected, said that in India they would not be content until they produced war and merchant ships for the defence of their shores and their trade, with the co-operation of the Government and the large British armament firms. At the same time he dwelt upon the duty of all concerned to combine for the purpose of safeguarding India and the Empire with all the means at their disposal, and with all the resources that still awaited development.

Canada-West Indies Route.

Up till now the service between Canada and the West Indies has been continued without interruption, and, notwithstanding the general shortage of tonnage, it is understood that an effort will be made to maintain sailings as at present. The contract with the Royal Mail Steam Packet Company, for which provision is solely made by the Dominion Government, comes to an end in October of next year, and the probability of financial support not being forthcoming from the different island legislatures is now, we fear, being discussed. It is likely, however, that, if the war is not over by then, a provisional agreement will be arrived at, as it appears to be the intention of the Imperial authorities to include Canada and the West Indies in a big scheme of inter-Empire communication. Meanwhile, the Royal Mail Company is doing its best under very difficult circumstances. As regards British West Indian requirements in particular, it is well known that trade would have flourished to a much greater extent than has so far been the case if hesitation to take effective action had not been shown at more than one critical period, especially in encouraging the shipping companies to provide better facilities. A few months ago, the Associated Chambers of Commerce met at Port-of-Spain and passed a resolution advocating the opening of negotiations with one of the steamship lines running from England through the Panama Canal for a call at the islands *en route*, or, alternatively, for the establishment of a direct service. This cannot be done for nothing, as some of the commercial interests concerned seem to imagine, and it is certain that unless they are prepared to incur the necessary expenditure, very limited measures will be adopted, unless, of course, an Imperial scheme is decided upon and carried out.

War and Marine Risks.

Underwriters and owners have had experience of the difficulties of differentiating in practice whether certain losses fall to be made good as war risks or as marine risks. An instance of settling a claim of this nature is dealt with in the quarterly report of the British Steamship Owners' Association, and it strikes us that the admission that it fell under war risks is in strict conformity with a recent decision of the courts in a case where vessels carrying obscured lights collided in the darkness. In the present instance a vessel under convoy was following a trawler, which carried a light astern for steering purposes. All the other vessels were running without lights. A dark object was perceived moving through the gloom. It was a destroyer attempting to cross between the vessel and the trawler. Every proper effort was made to avoid a collision, but unsuccessfully. The vessel's stem collided with the destroyer, but shortly afterwards an explosion took place underneath the vessel, and she sank in a brief space. It appeared that

some bombs from the stern of the destroyer had become detached and had caused the explosion. In these circumstances the underwriters of the marine risks contended that the claim should be made to the War Risks Association, and the latter have admitted it. If even the loss be attributed primarily to sailing without lights, that, being a condition of navigation brought about by the war, would appear in itself to establish the incidence of a war risk.

A Question About Wages.

When Mr. John Hill talked recently at Blyth about a future Trade Union control of the shipbuilding industry, he had no doubt in his mind an Industrial Union composed of all the present craft unions, and unions of semi-skilled and unskilled workers. The bringing about of such a combination of interests is not, of course, so easy as some Labour leaders would have us believe. Sharp differences divide not only craftsmen from semi-skilled workers, but also craftsmen from craftsmen. As most of our readers know at first hand what these differences are, it is not necessary for us to be more precise. There is, however, one potential cause of disagreement between members of the Boilermakers' Society and members of most other shipyard craft unions to which, we fear, advocates of wholesale amalgamation pay too little attention. Dr. G. B. Hunter touches upon it in the course of an article which he has contributed to "The World's Work." "The average yearly income of a skilled British workman in our time (under pre-war conditions), if he worked regularly, may be taken," he says, "as approximately £100. Some, of course, have less and some piece workers have more, up to £250 or £300. Indeed, the great inequality of earnings between one class of workman and another, of quite equal skill, is one of the social evils of our time." The point is one which, we submit, nobody who advocates an Industrial Union for shipbuilding and marine engineering can afford to ignore. What, then, is their solution of the difficulty—if they have one?

National Shipyards.

It is agreed that the undertaking, which the First Lord of the Admiralty gave on Thursday last, that the National shipyards—four have, it seems, been definitely decided upon—are not to be used until all the existing private yards are full of work, meets most of the objections which were originally put forward by shipbuilders. Fully to employ the existing resources before tapping—or rather endeavouring to tap—new resources is, of course, the logical thing to do, as the problem is less one of increasing slips than it is one of increasing supplies of materials and labour. The point is still left undecided, however, as to whether with margins of national and labour supplies beyond the full requirement of the existing private yards, it is wiser to set up national establishments rather than give the owners of the existing yards an opportunity to expand their productive capacity. Shipbuilders think that the second of these courses is the one which might most profitably be followed, and the majority of people who know how anxious most firms are to extend their establishments are, no doubt, in agreement with them. Still, it is something to have gained the point that no use is to be made of the national yards until the existing yards are fully employed, and realising that, few seem to be disposed to press the further question—at any rate, in the meantime.

Weight of Ships' Structures.

It is of the utmost importance to be able to estimate closely the weight of material which will be incorporated in the finished light condition of a vessel. In the initial stages of design a careful estimate is made, so that the builders may be satisfied that the dead-weight guaranteed will be secured at the draught stipulated. In yards accustomed to certain typical classes of work this weight is arrived at by the cube number method; that is, that the product of the length, moulded breadth and moulded depth divided by 100 and multiplied by a coefficient obtained from previous ships of the same class will give the weight of the new vessel. Different firms have different methods, but in the largest types of ships it is often found necessary to estimate by direct calculation the weights of steel, wood and outfit, &c. There is in all the methods some room for error, so it is necessary to allow some margin for this in the estimates. In purely cargo ships a rapid way of arriving at their total light weight is by using the deadweight ratio coefficient, which in a present day single decker of about 400 ft. in length equals about 0·72. That is, that if the total displacement to the assigned freeboard draught be 10,000 tons, then 7,200 tons would be the total deadweight carried, including crew, coal and stores. Thus the light weight would be 2,800 tons, from which, by deducting the weight of machinery, the actual weight of ship's structure is found. It is necessary, however, to particularise more than this, and the weight of the various items must be found in order to make cost estimates. Some guidance along these lines was given by Mr. Tobin in his paper to the Liverpool Engineering Society two years ago.

Double-Acting Diesel Engines.

The reciprocating steam engine is invariably built to run double-acting, that is, admitting steam alternately to both sides of the piston, and yet with very few exceptions the Diesel engine is built on the single-acting principle with combustion taking place on the top side of the pistons only. In order to run as a double-acting engine it is essential that not only the piston, but the piston rod and the stuffing box should be efficiently water-cooled. To do this, it is necessary to lead the piston cooling water up through one side of the piston rod, and the warm water down the other side of the rod, the supply of water being sufficient to keep both piston and piston rod cool. The supply of water is led to the piston rod through one side of the crosshead, and may be drawn from the main cooling system through a tubular link motion equipped with spherical joints, or pumped up independently by means of a pump having a hollow plunger attached rigidly to the end of the cross-head. A water jacket completely surrounds the stuffing box, while lubricating oil is pumped through it in small quantities. Thus the pistons and piston rods may be run practically cold despite the great heat resulting from combustion both above and below the piston, and the inside surface of the piston-rod stuffing box is also kept efficiently cooled.

Electric Control of Vessels.

Fitting testimony to the work of the "silent Navy" was made on Saturday last in two *communiqués* issued by the Admiralty. The first recorded the sinking of an enemy auxiliary cruiser together with ten enemy patrol vessels, whilst the second recorded the destruction of an "electrically controlled high-speed boat" which was making an attack upon our vessels patrolling the Belgian coast. The idea of controlling craft whether surface boats or torpedoes is no novelty; the novelty would probably consist in the method of applying the electricity to the mechanism of the boat for controlling its motive power and its helm. As far back as 1892, experiments were made in Stokes Bay with the Sims-Edison torpedo, which after being put into the water was driven by electricity conveyed to it through a wire from a dynamo either on shore or on a ship, while a secondary battery was used for the steering gear. The length of the wire in that case was 4,500 yards and it came out of a tube fitted in the stern of the torpedo. Later, wireless transmission replaced the cable, and experiments in this direction have attained a considerable amount of success. It is necessary, however, for the observer controlling the electric vessel to see at long range the machine he controls, and also the object of his attack, and he must therefore be at a considerable height above the water, this rendering him extremely liable to detection.

It is to be regretted that the German vessel was not captured rather than sunk, as an examination would undoubtedly have revealed the method of control adopted.

SIR ERIC GEDDES' STATEMENT.

On the whole, the statement of Sir Eric Geddes, on Thursday, in the House of Commons, has been well received. That there are points on which criticism may be legitimately expended must be conceded. In some matters his narrative may have presented too optimistic an interpretation of certain aspects of his subject, but he was prudent in telling the country that the war might still be long. Any other assumption is fraught with dangers. Yet, on the personal side, the reception which the new First Lord of the Admiralty got from the House affords him just grounds for gratification. He had a double ordeal in making his maiden speech as the head of a great fighting service. Mr. Asquith characterised it as one of the most lucid and comprehensive statements of naval administration and policy to which he had ever listened. In the presence of this compliment from so shrewd and accomplished a parliamentarian as the late Prime Minister, further commendation is superfluous.

After all, what we look for in a statement of the First Lord in these times is a narrative making plainer the difficulties of the situation which have to be overcome. One striking fact at least emerges from a survey of the war. Although the great principles of strategy based on a command of the seas remain the same, the means and methods of carrying out the end change with startling rapidity. New devices are countered by new devices. There is a keen unremitting contest between brains on both sides, in science, in inventiveness, in organisation, in resource. How are the Admiralty and the Navy, which is its instrument, nullifying and defeating the efforts of the enemy striking down his offence and defence on the seas, and thus paving the way to final victory?

The great change in sea warfare which this struggle has brought forth is the submarine. Its effects, in their way, are as spectacular as those of the aeroplane in land warfare. Sir Eric Geddes had much to impart about the reorganisation of the Admiralty, about the destruction of the Norwegian convoy, about the impracticability of throwing British naval forces into the Baltic. These are interesting and important topics, but, perhaps, it is a sure instinct that has led the public to fix its attention in the main on what Sir Eric had to say about the progress of submarine warfare. This subject unfolds a two-fold problem—to sink the enemy submarines, and to replace our lost tonnage.

On the subject of the operations of the U-boats, his statement is the most complete and precise which we have yet received. He cannot see his way to include in the weekly returns the tonnage of lost vessels, but he surveyed in round figures our net losses at sea since August, 1914. For the whole period of the war in regard to vessels exceeding 1,600 tons gross, our net losses of merchant ships amounted to 2,500,000 tons, or 14 per cent. The German losses in the meantime, from destruction and seizure, total 50 per cent. of their mercantile marine. An important fact to note in regard to our losses has been their recent decrease. September is the month which shows the lowest level of sinkings since April, when the ruthlessness of the German submarines attained their high-water mark of destructive energy. October is only slightly worse than September. The German authorities explain this falling off as being due to the depletion of the British mercantile marine. They say that there are fewer targets for U-boats. Sir Eric Geddes denies that interpretation of the situation, for in September the overseas sailings were 20 per cent. in numbers and 30 per cent. in tonnage higher than in April.

The First Lord reveals another fact which the German Government would prefer to keep from its own people. Since the beginning of the war, between 40 and 50 per cent. of the German submarines operating in the North Sea, the Atlantic and the Arctic Ocean have been sunk. That achievement is greatly to the credit of the Navy, but it ought not to obscure its defensive services to shipping. Offensive operations against the submarines are now being rewarded with a larger harvest. More were destroyed last quarter than in 1916. Still, on the information before the Admiralty, Germany is building submarines faster than before, and the maximum output has not yet been reached.

Had the normal output of merchant ships been continued during the years of war, we should now have added on balance 2,000,000 or 3,000,000 tons to our mercantile marine, instead of being 2,500,000 tons down. The impulse to throw the whole weight of our shipyards into the task of meeting purely naval requirements at the outset of the war was natural. Yet, in the light of subsequent evidence, a grave mistake was made in leaving so long the problem of merchant tonnage unheeded. There was, moreover, wasteful use of vessels. The problem forced itself upon the Government. Merchant shipbuilding was commenced again none too soon. It is now being expedited. In 1917, Sir E. Geddes says, we shall have produced naval and mercantile tonnage to an extent almost equal to the best year ever recorded in our history. In 1918 it will be very much greater. In this connection he has a word to say in justification of the new national shipyards, of which there are to be four. "We will not," he says, "use the national yards until existing yards are worked to their full economic capacity. We believe, as far as we can foresee the position, that it will be possible to allot steel in the forthcoming year to an extent which will enable us to utilise more capacity than exists even with the extension to the existing yards." The responsibility for the whole shipbuilding programme, naval and mercantile, is now concentrated under a Controller at the Admiralty. We hope that he will be able to overcome difficulties of labour, of material, and of organisation, which have hampered production in the past.

It was inevitable that in initiating far-reaching and novel schemes with regard to shipbuilding and shipping, certain points leading to criticism should have arisen. As a matter of fact, there has been criticism, and it may be that with the exercise of foresight, a good deal of it could have been avoided. In the House of Commons itself, shipowners like Mr. Houston and Mr. Holt have been frankly critical in regard to various matters. Take the case of standard ships. Undoubtedly, the public have been disappointed at the rate at which these vessels are being completed up to the present. Up to the end of the year the prospect is, on official anticipations, that roughly 100,000 tons will have been launched. Sir Eric Geddes tells us that now more than 500,000 tons, out of 1,000,000 tons ordered, are under construction. It has been one thing to draw up schemes and another to bring yards of varying traditions and equipment into rapid working order on new lines. Shipbuilders have done their best, and the statement of the First Lord affords no excuse for any relaxation of effort in any direction, so far as shipbuilding is concerned.

TOWARDS INDUSTRIAL PEACE.

It will be recalled that the reports of the commissions which sat in different districts to inquire into the causes of industrial unrest, whilst differing upon many subjects, were unanimous in affirming their opinion that the provisions of the "Whitley" report would if put into operation do much towards bringing about industrial peace, and that they should therefore be put into operation without delay.

The committee on the relations between employers and employed, of which the Right Hon. J. H. Whitley, M.P., was the chairman, was called (1) to make and consider suggestions for securing a permanent improvement in the relations between employers and workmen, and (2) to recommend means for securing that industrial conditions affecting the relations between employers and workmen shall be systematically reviewed by those concerned with a view to improving conditions in the future. The committee decided first

to address themselves to the problem of establishing permanently improved relations between employers and employed in the main industries of the country in which there already exist representative organisations on both sides, believing that their proposals should be put before those concerned without delay, so that employers and employed may meet together in the near future and discuss the problems before them. It is generally allowed that the war has enforced a certain amount of reconstruction of industry, and in the development of reconstruction, and in order to improve the relations existing between employers and employed, it is essential that any proposals put forward should offer to the workpeople the means of attaining improved conditions of employment and a higher standard of comfort generally, and involve the enlistment of their active and continuous co-operation in the promotion of industry. To this end the establishment for each industry of an organisation of employers and workpeople is necessary, the organisation to consist of works committees, district councils, and the National industrial council. Such in brief is the Whitley report, the belief of the committee being that regular meetings would not only provide a means for dealing with industrial problems when they have become acute, but also, and more especially, to prevent their becoming acute.

The Ministry of Labour recently addressed a letter to all the principal Employers' Associations and Trade Unions asking for their views on the proposals of the Whitley Committee summarised above, and as a result of the large number of replies that have been received, the War Cabinet have decided to adopt the report as part of the policy which they hope to see carried into effect in the field of industrial reconstruction. As, however, certain points have been raised showing that some misapprehension exists in some quarters, the Ministry of Labour has again issued a circular setting forth the fears that have been expressed on both sides, and making it apparent that such fears are groundless. For example, fears have been expressed that the setting up of Industrial Councils indicates an intention to introduce an element of State interference. This, however, is not the case, since the formation and constitution of the Councils must be principally the work of the industries themselves. Again, the workers are known to be opposed to the scheme on the ground that it is intended to promote compulsory arbitration; but this also is not the case. Whatever agreements are made for dealing with disputes must be left to the industry itself to frame, and their efficacy must depend on the voluntary co-operation of the organisations concerned in carrying them out.

The problems of the period of transition will not be less difficult than those which the war has created, and the task of rebuilding the social and economic fabric on a broader and surer foundation will be rendered much easier if in the organised trades there exists representative bodies to which the various questions of difficulty can be referred for consideration and advice as they arise. There are numbers of such questions on which the Government will need the united and considered opinion of each large industry, such as the demobilisation of the Forces, the resettlement of munition workers, the employment of disabled soldiers and the control of raw materials; and the more it is able to avail itself of such an opinion, the more satisfactory and stable the solution of these questions is likely to be. There is thus a pressing need for the representative organisations of employers and workpeople to come together in the organised trades, and to prepare themselves for the problems of reconstruction by forming councils competent to deal with them. It is to be hoped that they will approach these problems, not as two opposing forces each bent on getting as much and giving as little as can be contrived, but as forces having a common interest in working together for the welfare of their industry, not merely for the sake of those concerned in it, but also for the sake of the nation which depends so largely on its industries for its well-being. If the spirit which has enabled all classes to overcome by willing co-operation the innumerable dangers and difficulties which have beset us during the war is applied to the problems of reconstruction, it is certain that they can be solved in a way which will lay the foundation of the future prosperity of the country and of those engaged in its great industries.

THE EDUCATION OF APPRENTICES.

AT least one good result has already followed as a direct consequence of the war—it has awakened the country to the urgent need of industrial efficiency. One of the first steps toward the achievement of this is the education of the youth who is entering a specific branch of industry in just the subjects which are essential for a complete understanding of his trade. And for this it is necessary that the training in the workshop and in the school should be developed side by side. We have already drawn attention to the report issued by the North-East Coast Institution of Engineers (see *Shipbuilding & Shipping Record*, July 26, 1917) upon the important subject of the Education of Apprentices, and it must be recorded with gratification that Mr. Fisher, the President of the Board of Education, in replying to a deputation which recently waited upon him to submit certain features in that report, stated that he considered the findings of the report as marking a most important step forward in English education.

Mr. Herbert Rowell, the President of the North-East Coast Institution, stated that the report sprang from a demand for an efficient system of technical education for their apprentices. It rejected developed elementary day schools, and laid it down that the most suitable type of school for the prospective engineer was the junior day technical school. It requested that the latter should be regarded as a distinct type of higher school, in no sense inferior to a secondary school, which boys could enter direct from the elementary schools at 12 to 13 years of age for a full-time three years' course of directed preparatory education before beginning their apprenticeship. In the establishment, management and general supervision of these schools, it was hoped that the North-East Coast Institution would act on a body, which should also be representative of employees, in consultation with the local education authorities. The Institution endorsed in the strongest possible terms the regulations of the Board of Education which required that a reasonable proportion of the members of the teaching staffs of such schools must have had practical trade experience of the occupations for which the schools furnished educational preparation. They regarded it as equally important that the inspection staff of the Board of Education charged with the supervision of the work of these and allied schools should be technical men, with experience in the industries. Mr. Rowell referred in detail to the Board's regulations for junior day technical schools, and expressed the view that the declaration in the regulations that they were "not intended to promote the establishment of courses planned to furnish a preparation for the professions, the Universities, or higher full-time technical work" was open to grave exception, as viewing the work of such a school as lying within a *cul de sac*. The Institution's scheme regarded such schools as places where the preparatory education of a prospective engineer or shipbuilder should be well and truly laid and where provision was made for the continuance of that education in a senior technical school during the apprenticeship of the brightest pupils, and continuing to the University. The point was, surely, one of spirit rather than administration, for he could not imagine that the Board would deliberately arrest a sequential scheme of development, such as that set out in the Institution's report. Nevertheless, the deputation thought it desirable to have a definite assurance on the point. They realised that, if the scheme of education indicated in the report came into force, the engineering and shipbuilding companies concerned would be called upon to bear not only the cost of providing their apprentices with the facilities necessary under the scheme, but, also, a heavy share of the increase of taxes thereby entailed. They believed, however, that the extra expense involved would be

returned to the community in a far higher degree, on the one hand by the greater skill of the workman and, on the other, in the broader mental outlook, balance and initiative of the individual. They would like to see such a scheme adopted nationally, but, if that could not be done at first, they were prepared to recommend its adoption on the North-East Coast. The old family relations of master and apprentice, which raised craftsmanship to a dominating height, were gone, but they could at least see that the neglect and exploitation of apprentice labour that had largely prevailed for half-a-century died also. The close personal instruction of the old days of the guilds could, at any rate, be replaced by a high standard of collective training with, where the size of the works allowed, a suitable person to act as mentor and guide to the apprentices.

The President of the Board of Education said he regarded the deputation as a very encouraging sign of the interest large employers of labour were taking in the promotion of technical education in this country. Hitherto, a certain number of forward and intelligent employers had provided continuation schools for their workmen, and he had never heard an instance in which an employer who had taken that step had regretted it. Employers who did take that step were, of course, exposed to the competition of other employers who had not taken the step; but he believed that, when the obligation of providing day continuation classes for pupils who had left school before the age of 16 became general, and was imposed upon the whole country, there would be many more employers ready to provide classes in connection with their work. If it was generally known that it was the considered opinion of a great industry, such as the engineering industry, that boys should have a full-time education, if possible up to the age of 16, it would create an immense improvement in the education of this country, react upon a great number of other industries, and conspire, in a very remarkable way, with one of the purposes of the Education Board, which was to put a special premium upon full-time education up to the age of 16.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by Correspondents.*]

A GOOD LOOK-OUT.

71, Fenchurch Street, E.C.3,
November 5, 1917.

To the Editor of Shipbuilding and Shipping Record.

Sir Eric Geddes in the course of his masterly review of the naval position called attention to the great importance of keeping a good look-out on merchant ships as a means of defeating the submarine. He even went so far as to say that, as compared with the use of science, and of various kinds of weapons and appliances, a sharp look-out is almost the most potent protection against submarines that exists, the odds being seven to three on the ship if the submarine is sighted, and four to one against the ship if the submarine is not sighted.

This weighty pronouncement by the highest authority on the subject cannot be too widely known to all those that go down to the sea in ships, and I would suggest that shipowners should give instructions for it to be prominently exhibited in all their vessels, so that everyone on board, whether a passenger or a member of the crew, should have it constantly before him.

The prime importance of keeping a keen look-out was called attention to in *The Times* on March 1 last by Sir Alfred Yarrow, who generously offered a reward of £20 (up to a total expenditure of £10,000) to anyone on board a British merchant ship who first draws the captain's attention to an enemy submarine being in the vicinity. A large number of awards has been made under this scheme, which has proved to be of the greatest service in encouraging a sharp look-out being kept. I have no hesitation in saying that it has been the means of saving valuable lives and property, and that its usefulness might be considerably increased if it were given greater publicity; and I am sure that shipowners will be only too glad to do all they can in this direction.

The numerous cases which have come before me in dealing with the awards under Sir Alfred Yarrow's public-spirited offer show how important it is that the submarine should be sighted at the earliest possible moment. Needless to say, the splendid officers and men of our mercantile marine, who are fighting our ruthless foe as courageously at sea as our magnificent soldiers are doing in the trenches, are keenly alive to the advantage of keeping a sharp look-out; but it is highly desirable to enlist the services of everyone available on board, for, obviously, the greater the number of eyes there are on the look-out the better chance there is of sighting the submarine before it has time to approach near enough to make an attack.

The notices which I suggest to be put up in every ship should, therefore, invite passengers as well as members of the crew to make a point of keeping a sharp look-out, and of informing the officer on the bridge immediately they see anything of a suspicious character. I am having the necessary notices printed, and will have much pleasure in arranging for a supply to be sent to shipowners if they will kindly apply to this address.

Thos. L. Devitt,
Chairman of Lloyd's Register of Shipping.

LINER SERVICES, WAR WASTAGE AND REPLACEMENT.

A memorandum has been issued by the Liverpool Steam Ship Owners' Association dealing with the war wastage of liners and the question of their early replacement. It is pointed out therein that the liner services have provided the ships needed for auxiliary cruisers, transports, supply ships and hospital ships. By the carrying capacity and speed of their ships they have carried, and are carrying, the greater part of our oversea supplies of food and munitions of war. These services had been steadily developed year after year, whether trade was good or bad, by the energy and enterprise and at the cost of the regular lines, and they were at the disposal of the nation on the outbreak of war. Without these services the war could never have been fought.

Under peace conditions the great bulk of the exports of the United Kingdom, apart from coal, are carried by the regular lines. In value the exports carried by the lines represent considerably more than 57 per cent. of the total exports. In the carriage of imports into the United Kingdom the general trading ships play a greater part, but here again ships have to be specially designed to carry successfully such articles as provisions, tea, cotton, &c., whilst the frozen meat trade is a trade which can only be carried by the regular lines; and in the import trade, the constancy of regular ocean service is of the first importance. The first step towards getting the armies back to civil employment must be the re-establishment of the organised ocean services to bring in the imports of raw materials, and to distribute the exports of manufactured articles.

Under peace conditions it is estimated that the liner tonnage of the United Kingdom was represented by about 1,200 vessels of about 7,000,000 tons gross. Of this liner tonnage there were employed:—

	Vessels.	Tonnage Gross.
In trade with the United Kingdom—about ...	900	5,500,000
In trade between ports both outside the United Kingdom—about	300	1,500,000
	1,200	7,000,000

Of the above liner tonnage there was, on August 5, 1914, entered in the Liverpool and London War Risks Association, 908 vessels, representing 5,921,575 tons gross. The net loss in liner tonnage entered with the association since August 5, 1914, has been 20 per cent., whereas under peace conditions trade, the tonnage should have increased by not less than 10 per cent. Hence the liner tonnage of

the United Kingdom must be insufficient to meet the demands that will be made upon it to enable the overseas communications of the United Kingdom to be re-established—probably the shortage will not be less than 30 per cent.

In 1913 the approximate first cost of building liner tonnage was as under :—

	Per ton Gross. £
Fast mail and passenger liners	30 to 35
Passenger and cargo liners	20 to 30
Cargo liners	12 to 15
The average first cost of the liner tonnage entered in the Liverpool & London War Risks Insurance Association in August, 1914, had been	18 0 0
The average value of this liner tonnage in August, 1914, calculated on the basis of first cost less depreciation at the rate of 4 per cent. per annum, was	11 12 0
The average value of this liner tonnage as now agreed with the Ministry of Shipping for the purposes of insurance under the Liner Requisition Scheme is about	30 0 0
It is not possible under existing conditions to estimate the present cost of the replacement of the lost liner tonnage. It cannot be assumed at less than two and a-half times the first cost under peace conditions, and it is probably considerably higher. At two and a-half times, the average first cost would be	45 0 0
(NOTE.—An estimated average building cost of £45 per ton gross represents an average building cost of about £29 per ton deadweight cargo carrying capacity. Contracts are now being offered for the building of tramp tonnage at £25 per ton deadweight cargo carrying capacity.)	
On the above estimates he replacement cost, at present prices, of one-third of the liner tonnage 7,000,000 tons gross = 2,300,000 tons gross at £45 per ton gross would amount to	103,500,000
As against such estimated cost of replacement the lines have recovered under their insurance policies, or from the State as *ascertained values* under the terms of requisition, about two-thirds of such cost	69,000,000
Leaving a balance to be provided of	£34,500,000
In addition to the cost of replacement there must be a very heavy outlay incurred in re-conditioning the liner fleets as they exist when peace is restored. Overhauls, repairs and renewals have been postponed. The wear and tear of continuous service under war conditions has been abnormal. The cost of re-conditioning will be at practically war prices. It is difficult to assess this outlay, but (having regard to war prices) it will not be less than 15 per cent. on the original cost of the vessels still left in the liner fleets, say on £84,600,000 =	12,690,000
In the result, *provided the whole of the money collected in respect of war losses is re-invested in shipping*, the lines will have to find out of earnings, out of further capital, or on credit, in order to bring back their fleets to the state of efficiency in which they were when war was declared, about	£47,190,000

To meet national needs, ships have been withdrawn, and long established trades have had to be abandoned in all parts of the world, and the place of the British lines has, in great measure, been taken by vessels under Allied or neutral flags. It will be years before these broken connections can be re-established.

It is not yet possible to assess the actual earnings of liner tonnage under war conditions. An analysis of statistics, published by *Fairplay*, shows that there will have been accumulated out of the undivided earnings of the diminishing liner tonnage in the years 1914, 1915, 1916, and 1917, about £20,000,000. As has been stated, the lines have already recovered under their insurance policies, or from the State as ascertained values under the terms of requisition, about £69,000,000. Withdrawn from shipping and invested in Government Loans at 5 per cent., this sum alone would produce an income nearly equal to the total dividends distributed annually by the lines.

The credit of the lines can only be maintained if the future of their businesses be assured. That future can only be assured if the lines are allowed to proceed as rapidly as possible with the replacement of their fleets, and if they are guaranteed that their businesses will be restored to them immediately the war demands on their ships have been met.

If the State embarks on the building of liner tonnage, the future must be gravely imperilled. The shipbuilding yard facilities for the building of such tonnage are limited, and if the slips are occupied by State ships it will be impossible for the lines to replace their losses. But above all else, if the State is building ships to compete with the lines, their credit with their shareholders will be destroyed, and such capital as they have available will be withdrawn to find more secure employment.

The questions raised in this memorandum are of pressing importance, as it has recently been announced that the State is starting on the building of liner tonnage. Plans are already in existence for vessels to carry about 10,600 tons d.w. at a speed of 14 knots.

As the result of careful inquiry, the association is satisfied that :—

(1) Ton for ton, the lines can build vessels of this type to meet the requirements of their trades as quickly as any other type can be built.

(2) Ton for ton, no more steel would be used by the lines.

(3) Ton for ton, the steel required would not take longer to produce.

(4) Ton for ton, no more labour would be required in the production of the steel, or in the building of the ships.

(5) Ton for ton, the ships would carry as much deadweight cargo and more bulk cargo.

Many of the liner types have been standardised for years, and there are shipbuilding yards which are organised for this production, and are in a position to proceed on plans, patterns, and specifications to which they have been accustomed to work for years.

The lines are ready to build ships of the types which the nation must have to re-establish both its export and import trades, and in the building of such ships they are prepared to defer until peace is restored such provision as they have been in the habit of making for passengers. They are prepared to build primarily to meet the immediate war needs of the nation, but the ships they do build will be adaptable to the nation's needs in peace.

The association has dealt in this memorandum with the liner services, as the tonnage controlled by its members is almost all liner tonnage ; but the association fully realises the important part played by tramp tonnage in the carriage of the coal exports of this country, and in the bringing in of the deadweight imports used in national industries, and in maintaining the position of this country as the great ocean carrier of the world. The losses amongst the tramp tonnage have been as heavy, if not heavier, than the losses amongst the liner tonnage. The increase in the cost of building is proportionately as great in the case of the tramp tonnage as of the liner tonnage, and the amount recovered by the owners of the lost tramp tonnage under their war risks insurance policies or from the State under the terms of requisition will not nearly cover such building cost. Therefore, the position in regard to the replacement of tramp tonnage is of pressing importance.

The association asks that all such steel as can be provided for the purpose of building liner tonnage, and that all shipbuilding slips that can be spared in the yards accustomed to build liner tonnage, should be placed at once at the disposal of the lines, and not appropriated by the State. Further, the association seeks for guarantees that the business of the lines will be restored to them immediately the war demands on their ships have been met.

SWEDISH SHIPBUILDING.—Notwithstanding the scarcity of shipbuilding materials in Sweden, several schemes for yard extensions have been undertaken this year. The equipment of a large yard near Helsingborg has been commenced recently. The old and small Raa yard was sold to the Reederei Polstjarnan (Stockholm) for £7,440, and, with the participation of this firm, a new company has been founded—with a capital of £55,000, for the construction of medium-sized cargo vessels. A large yard was laid down last year by the firm of Brodin, at Gefle, formerly the centre of a considerable wooden shipbuilding industry. The new yard recently completed its first construction, a motor-auxiliary vessel of over 400 tons d.w. capacity, with a 120 h.p. crude-oil motor, one of a number of similar vessels to be built for Brodin as quickly as material becomes available.

PROPOSED DEVELOPMENT OF RUSSIAN MERCANTILE MARINE.

In a report to his Government, the Canadian Government Trade Commissioner at Petrograd (Mr. C. F. Just) states that the rehabilitation and development of the Russian mercantile marine is amongst the urgent economic problems with which the Government of Russia has to deal. With the elimination of German shipping interests as intermediaries in the sea-borne trade of Russia, the Government recognises the importance of immediate measures calculated to secure the increased activity of the mercantile marine after the war, and of creating conditions that will promote the independence of the overseas commerce of Russia and the establishment of a commercial fleet in conformity with the needs and resources of the country.

Proposals having these objects in view have been put forward by the Russian Ministry of Trade and Industry in a Memorandum accompanying the estimates of that Department for 1917. The following is a summary of the proposals :—

Two main principles governing the development of national shipping are laid down : (1) The creation of favourable shipping conditions in general which would place Russian shipowners on an equal footing with shipowners in other countries ; and (2) the increase of the Russian mercantile marine by such a number of ships as would not only replace the losses sustained during the war, but make it possible for Russian merchant vessels to take an active share in the trade movement on the most important sea routes.

It is stated that Russia's activities must be directed towards maintaining in full efficiency, and even in adding to, all her steamship services which have not been interrupted by the war, viz., in the White Sea and the adjacent waters of the Arctic Ocean, the Caspian Sea, and in the Far East. In the regions served by these lines great developments are to be expected ; in the north, from the construction of the Murman Railway, and in the south, from the development of relations with Persia and the Russian Dominions in Central Asia, while in the Far East the growing fishing industry and the development of the Maritime Provinces are creating unexpected traffic conditions which will have to be met.

Another important task to be undertaken will be the re-establishment of those shipping lines which have been suspended during the war, the most important being the Black Sea Coast services ; those on the Danube and the River Pruth ; the traffic with Persia and the Near East by way of the Black Sea and the Mediterranean ; and the Odessa-Vladivostok Line of the Russian Volunteer Fleet.

ADDITIONAL STEAMSHIP SERVICES.

Concurrently with the re-establishment and expansion of existing steamship lines, vigorous action is recommended in connection with plans which have been prepared by the Department for the following new shipping services :—(1) A line from Odessa to London, for the exportation of perishable products from Russia, which is intended to take over in future the Russian exports that were formerly sent abroad *via* Austria ; (2) a line from Baltic ports to Vladivostok, which it is considered will prove useful in securing return shipments from the Far East, and will facilitate the direct importation of foreign grocery goods hitherto received through foreign distributing centres ; and (3) services establishing communication between Russian and foreign ports in Europe with the estuaries of the rivers Obi and Yenisei for the development of the natural resources of Siberia.

STEAMSHIP COMMUNICATIONS WITH ALLIED COUNTRIES.

Besides the above proposals, there remains the question of establishing new lines to promote direct commerce with the Allies of Russia, as, for instance : (1) A line between Russian Baltic ports and France ; (2) one from the Black Sea to France and Italy ; and, finally, (3) the consideration of the development of direct communication with North America *via* the Baltic or the Black Sea.

"In this respect," says the Memorandum, "special importance must be attached to the establishment of direct shipping lines to America under the Russian flag for the purpose of securing an extensive passenger traffic on Russian ships. It is to be expected that after the close of the war, emigration abroad will be resumed, though perhaps on a limited scale at the outset, and it is most important that this movement should be directed to Russian ports and effected through Russian ships. A Bill regulating the emigration movement in this direction is already being prepared by the Ministry of Trade and Industry."

BOUNTIES AND FREE SHIPS.

In regard to general measures, the granting of shipping bounties is strongly advocated by the Department, and it is urged that such a measure should be adopted before the termination of the war.

The refunding of the dues paid by ships passing through the Suez Canal will be continued in the future, and a similar measure is being proposed in regard to the Panama Canal.

Russian shipowners are to be assisted in securing credit facilities by means of an enactment which will provide for the registration of trading vessels and the mortgaging of same.

In order to secure the desired increase in the number of merchant vessels on the Russian register, the existing law regulating the duty-free admission of merchant vessels purchased abroad is to continue in force indefinitely ; regulations will also be issued authorising the advance of sums of money for the acquisition of ships abroad.

RUSSIA'S MERCANTILE MARINE.

It is not possible to say what Russia's tonnage requirements will be when relations with the outside world are resumed. It may be assumed, however, that, on the whole, the tonnage requirements will be greater than in the past, having regard to the determination of the Russian Government to discourage trade exchanges by the western land frontier, and to favour by all possible means the development of Russian ports and sea communications.

The latest figures published by the Statistical Bureau of the Russian Ministry of Commerce show that on January 1, 1914, Russia's mercantile fleet consisted of 3,700 vessels with a total of 783,000 net registered tons. Of these, 1,044 were steam vessels of a net registered tonnage of 513,000 tons, 59 motor boats of 13,000 registered tons, and 2,597 sailing vessels of 257,000 registered tons.

SHIPBUILDING IN RUSSIA.

The construction in Russia of sea-going tonnage for the mercantile marine is somewhat small in amount. There have been built in Russia 187 steamships with a gross tonnage of 107,642 ; the machinery for these boats is, however, mostly of foreign manufacture, and in view of the facilities that are to be provided in future for the purchase of merchant vessels abroad local construction is hardly likely to show great development. As a matter of fact, shipbuilding in Russia has been confined hitherto chiefly to the provision of vessels of all classes for the Russian navy, and both the naval dockyards and the few private yards are generally full of Government work. The private yards also execute general ship repairs.

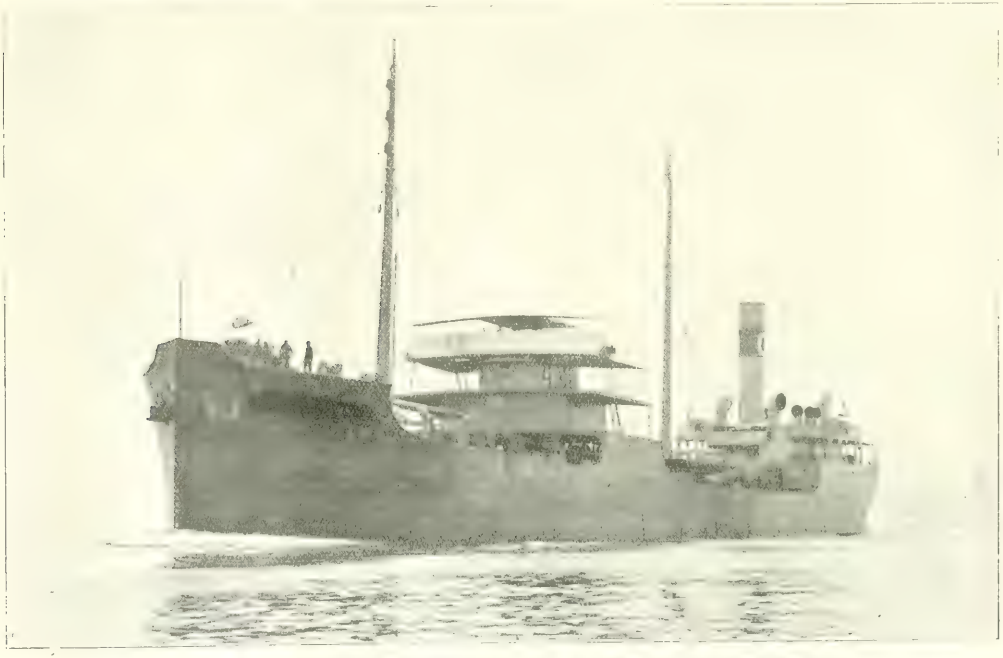
DEVELOPMENTS AT KOBE.—The Marquis Okuma, formerly Prime Minister of Japan, recently visited Kobe and addressed some interesting remarks to the business and shipping men of the port. He placed great stress upon the importance of shipping, and urged Kobe men to make further efforts to maintain their city ahead of all the other ports in the Far East. He had experienced great difficulties as a Government official in connection with maritime transportation in the early Meiji era. Hongkong had long been recognised as the foremost open port in the Far East, but held that position no longer. Since the war, which had caused many British steamers to quit their calls to Oriental ports, Kobe had fast become a more important port until it was now the foremost trade port in the Far East in the number of merchantmen calling there. There were, however, several defects which should be removed, so that Kobe might become more and more important. The defects of the port lay in its lack of good connections in transportation on land and sea. When compared with Antwerp and Hamburg, Kobe was far inferior.

THE OIL TANK STEAMERS OF THE GULF REFINING COMPANY.

The New York Shipbuilding Company, of Camden, N.J., have recently built a number of oil tank steamers for the ocean trade of the Gulf Refining Company, of Pittsburg, Pa. These ships, which are the largest of this class which the New York Shipbuilding Company have turned out to date, are of similar design, differing mainly in detail; and they all carry similar names, each beginning with the word "Gulf," such as *Gulfmaid*, *Gulfoil*, &c. They have been built under Lloyd's special survey and are classed 100 A 1 in Lloyd's Register.

The principal dimensions of a typical "Gulf" boat are as follows:—

Length, overall	406 ft. 6 in.
Length, between perpendiculars	392 ft.
Beam, moulded	51 ft.
Depth, moulded to upper deck	30 ft. 2 in.
Depth, to main deck	22 ft. 3 in.
Deadweight carrying capacity on a draught of 23 ft. 6 in.	7,575 tons.



One of the "Gulf" Oil Tankers, built by the New York Shipbuilding Co.

The vessels are of the two-deck type with raised forecastle, bridge and poop decks, with the engines and boilers situated abaft the oil tanks, and the general arrangement of the main and expansion tanks is in accord with the usual practice for vessels of this type.

The hulls have been constructed on the Isherwood system of longitudinal framing. The adoption of this system results in an increased carrying capacity of 230 tons beyond what would be obtained in a ship of the same dimensions built under the transverse frame system.

The hull is divided transversely by means of 11 watertight or oil-tight bulkheads, there being eight main cargo tanks, these being further sub-divided into port and starboard tanks by means of a longitudinal oil-tight bulkhead amidships from the keel to the upper deck running for the entire length of the tank space. There is in addition a fuel oil tank forward, and a fuel oil tank aft of the main cargo tanks, this latter being so arranged that it can be used as a coal bunker if coal is being burned by the ship's boilers. When fully loaded the vessels are capable of carrying 2,285,000 gallons of oil in bulk. The pump-room, which is divided by the longitudinal bulkhead into port and starboard pump-room, is situated just forward of the after fuel oil tanks. In addition, there is a large dry cargo hold forward which is intended for the transport of barreled oil or general cargo. The general arrangement of the various transverse and longitudinal bulkheads, and the disposition of the holds, machinery spaces, &c., are shown on page 443, which represents the profile and the deck plans of these boats. The principa scantlings of the midship and other sections are shown on page 442, which also shows the position of the main and expansion tanks. There is a continuous expansion trunk between the decks, and a raised expansion trunk over the five after tanks, and the expansion trunk sides both between the decks and above the upper deck are continued by the machinery casing, thus greatly increasing the strength of the vessel.

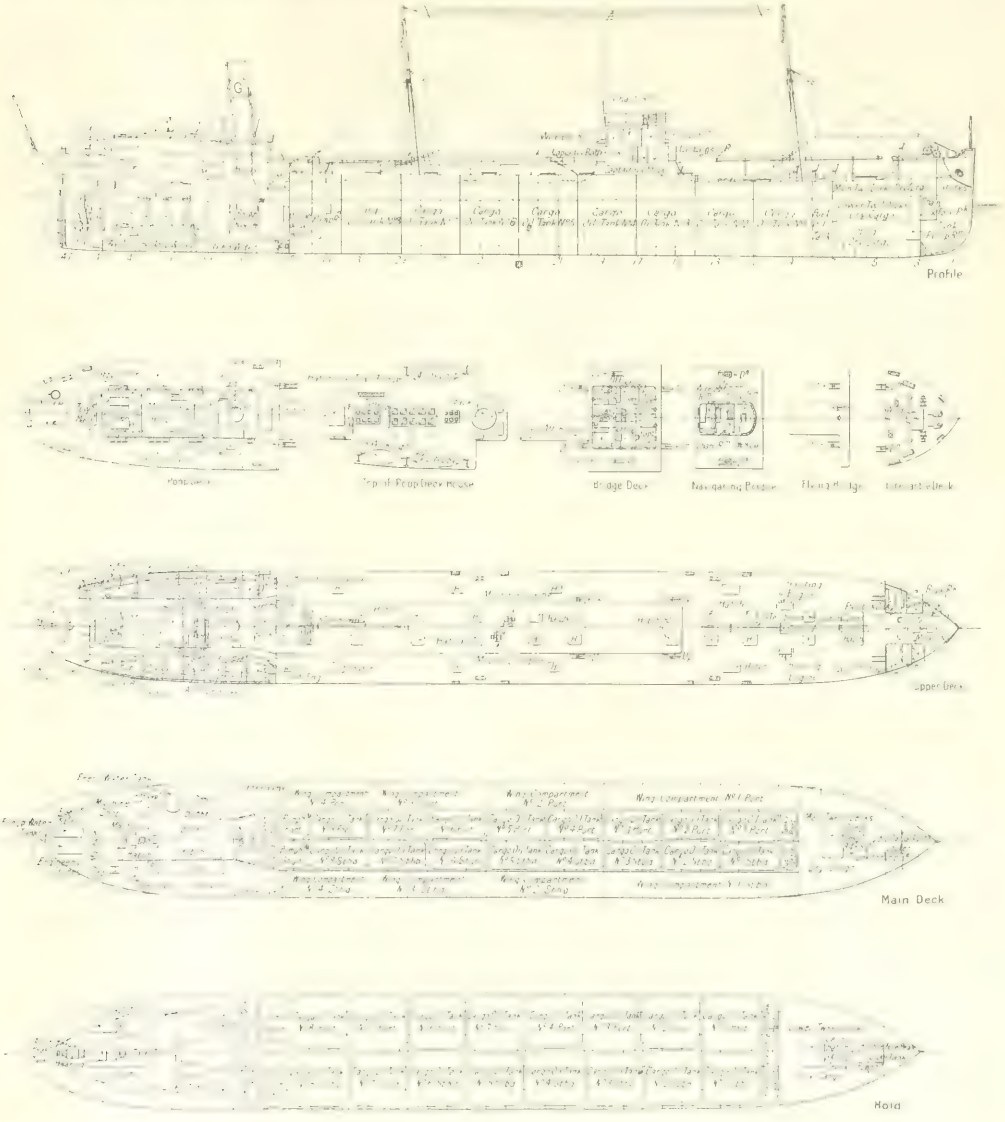
The cargo pumping arrangement has been adopted to deal with the many different grades of oil that are likely to be carried. There are seven Warren steam pumps situated in the pump-room, all of which are capable of discharging at the same time through an independent pipe line. The pumps are of the usual duplex pattern, six of them being 10 in. and 8½ in. by 12 in. and one 12 in. and 10 in. by 12 in.; and in addition to these, an air compressor is installed in the pump room for use in testing the pipe lines, operating pneumatic tools, &c.

The officers' quarters and the wireless operator's cabin are situated amidships on the bridge deck, which is connected with the after part of the vessel by a fore and aft bridge, the officers' mess being located on the poop deck. The wireless room and the chart house are situated above these on the navigating bridge. The engineers are housed on the upper deck aft beneath the poop deck on the starboard side, the sailors' and firemen's quarters being situated on the

Sections of the Oil Tank Steamers for the Gulf Refining Co.

port side. The vessel is provided with a full poop, thus adding to the dryness of the ship and to the comfort of the crew. Brown's steam steering gear with telemotor gear is fitted, operated from the bridge as well as from aft, and there is also an independent hand steering gear aft, whilst on the poop deck there is a powerful auto-

stroke, the cranks being placed at 120 deg. to each other. The high pressure and intermediate pressure engines are fitted with piston valves, the low pressure engine having a balanced flat valve. Stephenson's reversing gear is employed, Lovekin assistant cylinders being fitted to the high-pressure and low-pressure gear. The engines



Profile and Deck Plans of Oil Tank Steamers, built for the Gulf Refining Co. by the New York Shipbuilding Co., Camden, New Jersey.

matic towing gear, furnished with a heavy steel hawser for towing a barge, as is usual with this type of vessel, the propelling machinery being made correspondingly powerful.

The ship is propelled by means of a single screw driven by a triple-expansion engine having cylinders 27, 45 and 75 in. diam. by 48 in. stroke, the cranks being placed at 120 deg. to each other. The high pressure and intermediate pressure engines are fitted with piston valves, the low pressure engine having a balanced flat valve. Stephenson's reversing gear is employed, Lovekin assistant cylinders being fitted to the high-pressure and low-pressure gear. The engines are capable of developing 2,700 i.h.p., giving the ship a speed of 11½ knots. The main condenser has a cooling surface of 4,800 sq. ft. capable of giving a vacuum of 26½ in. of mercury. Steam reversing gear of the ram type is fitted, and there is also a steam engine for operating the turning gear. The thrust block, which is

of the usual horse shoe type consists of ten rollers. The main air-pump, two bilge pumps and two sanitary pumps are all driven from the low-pressure crosshead, but an independent centrifugal circulating pump is installed in connection with the main condenser. There is also a small auxiliary condenser having a cooling surface of 900 sq. ft. The main and auxiliary feed pumps are of the Weir pattern, whilst in connection with these there is a feed-water heater with 225 sq. ft. of heating surface, and a Griscom-Spencer evaporator of 25 tons capacity. The ship is lighted by electricity, power for this and for the wireless being supplied by two 10 kw. generators working at 110 volts. These were supplied by the General Electric Company. In addition to the auxiliary machinery enumerated above there is a 2-ton ice machine used in making ice for the cold storage rooms situated on the upper deck. As is usual in American-built ships, a small machine shop is installed in the engine-room comprising a lathe, a shaping machine, and a drilling machine, all electrically driven, together with the usual small tools required for carrying out small repairs.

Steam is supplied from three single-ended Scotch boilers each 14 ft. 8 in. diam. by 11 ft. long, having Morrison corrugated furnaces 42 in. diameter. The working pressure of the boilers is 190 lb. per sq. in. Forced draught is provided by means of two fans driven by direct-coupled vertical engines and capable of maintaining a pressure of 2 in. of water, and in the feed-water system there are water purifiers, oil separators, feed heater and feed-water circulators fitted to each boiler.

The boilers have been fitted to burn either oil or coal, although it is expected that oil will be the fuel principally used.

One oil fuel burner is fitted to each furnace of the boilers, and the oil is used on what is known as the mechanical atomising system, that is to say, it is atomised by being pumped through an "atomiser" fitted in the burner. To maintain this pressure two duplex oil-fuel pumps are provided, having cylinders 5½ in. and 3½ in. diam. by 5 in. stroke, and in order to facilitate combustion the oil is passed through a heater before being led to the burners.

THE GERMAN RECONSTRUCTION BILL ACCEPTED.

By passing the third reading of the Bill for reconstructing the German mercantile marine, the Reichstag has," says *Hansa*, "completed a work of imperishable importance." Certain departures have been made from the decisions of the Imperial Commission for Trade and Industry, but these are not of so fundamental a nature as to imperil acceptance by the Bundesrat. There seem to be plenty of opportunities for contention in the interpretation and administration of the measure, but *Hansa* is profuse in its expressions of gratitude.

Our hard-hit shipping is given the opportunity gradually to recover and to collect power for the great national problems which lie before it. What is no less important, it can do this subject only to the minimum amount of interference demanded by financial interests. Under these conditions German owners are to accomplish as much after the war as they did before it.

"Whilst the whole German shipping world is grateful to the Government for the measure, it must not and will not forget that it has been granted, not so much in consideration of the individual position and claims of owners and seamen, as in recognition of the vital national interests involved. These remarks are probably by way of reply to Herr Independent Social Democrat party, who prophesied that after the fleet had been reconstructed, owners would be unable to meet international competition and would apply for further State assistance. He regarded this Bill and the future appeals for subsidies as an "endless screw, placing a burden on the people of the poor by indirect taxation, for the benefit of the strongest group of capitalists who had greatest political influence."

A number of Social Democrats voted not for the Bill, but only because they thought that part of the State assistance should have been in the form of loans. "They were not," says *Hansa*, "opposed to the main principles of the Bill, and the German shipping world will not forget that the measure for its reconstruction was accepted by an overwhelming majority of the Reichstag. Without sufficient tonnage of our own, the reconstruction of our economic life would have been delayed indefinitely, if not entirely jeopardised. We need a powerful merchant fleet immediately after the war, if we are not to sacrifice our hard-won position in world trade and traffic."

The most important amendments in the form of the Bill (the text of which is given, p. 88 of our issue for July 26, 1917), are: (1) the proviso that a law may be introduced later, giving the State a share in the profits of owners now "reconstructed" by State grants; and (2) the graduation of supplementary grants on the basis of 50 to 70 per cent. of the excess cost over peace value in the case of vessels completed within the first to fourth year; and 20 to 55 per cent. in the case of vessels completed within the fifth to the ninth year. The original proposal was 60 to 80 per cent. of excess cost during the first to the third year; 40 to 60 per cent. from the fourth to the sixth year; and 20 to 40 per cent. from the seventh to ninth year.

The accepted Bill has riders to the effect that the Imperial Chancellor should do all in his power to see that healthy and convenient accommodation is provided for officers and crews on vessels built under the new grants; to secure as much benefit as possible to South German industries from the reconstruction; and to release labour and materials to expedite work in extending existing yards and building new ones.

Expenditure up to £14,700,000 is authorised for the financial year 1917.

WIRELESS TELEGRAPH APPARATUS ON BRITISH SHIPS.

The *London Gazette* of October 26, contained the following amendment of the Defence of the Realm Regulations with regard to licences for installing wireless telegraphic apparatus on British ships:

"Regulation 37B shall be amended by the substitution of the following sub-sections for sub-sections (1), (2) and (3) thereof:—

"'(1) Every British sea-going ship of sixteen hundred tons gross tonnage or upwards in respect of which a licence to instal wireless telegraph apparatus has been granted by the Postmaster-General shall be provided with a wireless telegraph installation, and shall maintain a wireless telegraph service, and shall be provided with two certified operators, together with suitable accommodation for the apparatus and operators.'

"'(2) Application to the Postmaster-General in a form prescribed by him for such a licence shall, unless a licence has before the making of this regulation been granted in respect of the ship, be made as follows:—

"'(*a*) As regards every such ship which is registered in the United Kingdom, by the owner on or before the thirteenth day of November, nineteen hundred and seventeen:

"'(*b*) As regards every such ship which is registered elsewhere than in the United Kingdom, by the master within two days after the date on which the ship first arrives in the United Kingdom after the twenty-third day of October, nineteen hundred and seventeen.

"'(3) The Postmaster-General shall, as and when wireless telegraph apparatus and the services of operators become available for the purpose, cause licences to be issued in respect of such ships as in the opinion of the Admiralty should in the national interests be fitted with such apparatus, and the licences shall specify the date as from which the carrying of such apparatus under this regulation is to be compulsory, [illegible] and the qualifications of the operators.'"

SIR ERIC GEDDES ON THE WORK OF THE NAVY AND MERCANTILE MARINE.

In the House of Commons last week Sir Eric Geddes (First Lord of the Admiralty), in making his statement on the work of the Navy and the Mercantile Marine, said:—

"I will as briefly as possible describe the outline of the new administration. The present Board of Admiralty consists of eight naval officers and three civilians, including myself. However, the administrative work is growing in complexity, difficulty, and detail to such an extent that the appointment of an additional Civil Lord is still necessary, and I expect to revive the post which lapsed quite recently. The Board will then consist of eight naval officers and four civilians, including myself. The members of the Board, in addition to dealing individually with work allotted to them under the table of distribution of business in the Admiralty, have been grouped into two formal Committees, namely, the Operations Committee and the Maintenance Committee.

"The Operations Committee deals with large questions of naval strategy, with operational plans, and with the scale of provision and equipment of the Navy as a fighting force, and with its efficiency, organisation, and utilisation. The Maintenance Committee consists of the six members of the Board concerned with personnel, matériel, supplies, works, production, and finance. The Deputy First Sea Lord, representing the Operations Committee, and the Fifth Sea Lord, attending when necessary, form the link between the operations side of the Board and the maintenance side of the Board. Matters coming within the administrative sphere of the different members of the Board are, if they fall within certain definite categories of importance, referred for consideration to the appropriate Committee of the Board, which either arrives at a definite conclusion or refers the matters for decision or confirmation to a full meeting of the Board, as the nature of the subject may require.

PUBLICATION OF TONNAGE LOSSES.

"I now wish to deal with the question of the desirability or otherwise of publishing the tonnage of British merchant vessels lost as the result of enemy action. I approached this subject with the idea that it was desirable, and ought to be possible, to give the figures to the public, because it seemed hardly conceivable that the enemy did not know what he was sinking; but after a most careful review of the question I regret very much indeed to say that it has not been found possible to arrive at any form of publication which would not, at the same time, convey most valuable information to the enemy, which I am perfectly sure they do not possess to-day. I have studied, from a variety of sources, the statements made from time to time by the enemy as to the tonnage position, and I have come to the definite conclusion that not only does he not know what is being sunk, but that he would like very much indeed to know the tonnage regularly month by month, or week by week, or even if he could get a precise figure for a period. I can, however, give, as supplementary to the recent statement of the Prime Minister in the Albert Hall, certain information which I think will show that we are making reasonable and satisfactory progress in overcoming the menace of the enemy's submarine activity. Great as is the loss of mercantile tonnage—and the figure is still very formidable—one cannot at this stage of the war pick any one item and deduce therefrom that the war, or even any phase of the war, is going well or badly.

"The general situation of submarine warfare may be illustrated by the following figures:—Since the beginning of the war—and these are an entirely new set of figures—between 40 and 50 per cent. of the German submarines commissioned and operating in the North Sea, Atlantic, and Arctic Ocean, have been sunk. During the last quarter the enemy have lost as many submarines as they lost during the whole of 1916. The figure I am able to give you is important, because it shows that we are really making progress in this. The figure I give you is that in one quarter, that is, roughly, a third of the time, we have sunk the equivalent of the whole of 1916.

"As to the sinkings of British merchant tonnage by submarines the German official figures for August are 808,000 tons, given out officially by the German Wireless Press, and the figure is all nationalities. German figures are usually given for all nationalities, and then they turn from that on to how the British mercantile marine can stand this. They actually sank very little more than a third of that amount of British tonnage and a little more than half for all nationalities. For September their official figures are 672,000 tons, that is, they have gone down from 808,000 to 672,000. They sank far less than a third of that amount of British tonnage and less than half that amount of all nationalities. The Germans claim that our tonnage is falling so low that there are not enough ships at sea to enable their submarine commanders to maintain their 'bag.' They say the game is getting very scarce. That is the explanation given by both semi-official organs, the *Cologne Gazette* and the *Frankfurt Gazette*, on the same day, October 23, so obviously it was communicated to them. In April last, which was absolutely the heaviest month of sinkings by the enemy submarines since the war began, we must assume because it was their best month that our trade flowed in satisfactory volume for their submarines. They had no complaint in that month. They did very well; they got a good bag. Since April they have steadily decreased, and latterly very markedly decreased. September was a most satisfactory month, the best since we began the intensive submarine warfare, and, though not quite so good in October, still October is very slightly worse than September, and is far better than any other month since the unrestricted submarine warfare began. The net reduction in tonnage in the last four months is to-day 30 per cent. less than was anticipated in an estimate prepared by me for the Cabinet early in July.

NET REDUCTION IN BRITISH TONNAGE.

"The total net reduction since the beginning of the war from all causes in British tonnage on the official register, and applying it only to ships that are ocean going, 1,600 tons and over, is 2,500,000 tons. That is the net reduction; that is the tonnage which we have lost net, and that is 14 per cent. of the ships of that register in that class. That reduction has taken place during a period while our Armies, with their magnificent equipment, were receiving absolute priority, and the great growth of our Navy was simultaneously achieved, and achieved to the detriment of mercantile shipbuilding. Now that the submarine is, for the present at any rate, doing less damage, and the resources of the country are again being devoted to a far greater and increasing extent to the upbuilding of the mercantile marine, I hope and I look to the net results being still more favourable.

"To summarise the submarine warfare I would put it thus: In spite of an increased number of ships passing through the danger zone our defensive measures have, during the past seven months, proved so efficacious that there has been a steady and very great reduction in the damage done by the enemy's under-water craft. Meantime we are sinking enemy submarines to an increasing extent. Our offensive measures are improving and becoming more effective and will still more considerably improve and multiply. On the other hand, on the best information before us, I believe that the Germans are building submarines faster than they have hitherto been able to do, and that they have not yet attained their maximum strength. For the present I come to the conclusion that the submarine warfare is going well for us.

THE GERMAN POSITION.

"I have now dealt with the submarine situation, and the situation as regards the net reduction in our own merchant tonnage. At the outbreak of war Germany had about 5,000,000 tons of shipping. To-day nearly half of it is sunk or in the hands of our Allies and of ourselves. He has got a 50 per cent. reduction, and none of his merchant ships go to sea. We have got a 14 per cent. reduction.

It is well, however, that the British public should be told what they are up against. We must not consider ourselves alone. We must consider the Alliance as a whole. We must not be optimistic and say we can do all we like, because submarine warfare is, for the present at any rate, going well with us. Some of our Allies may in some particulars be better off or may be worse off than we are.

MERCHANT TONNAGE.

"The question has often been asked as to whether we are building merchant tonnage at a sufficient rate to replace the submarine sinkings? The answer has been given in the negative. But, as I have already endeavoured to point out it is unsound and inconclusive to take any one factor of output as against submarine losses to be a vital indication of our situation. Our present position in merchant shipping is an interesting phenomenon of the war. If it shows us how quickly our surplus resources are wasted, we can take courage in remembering that at the same time we have grown strong where once we were weak. In the well-grounded confidence that our sea front was strongly held, the nation set itself, three years ago, to become strong where it was weak, and to build up its force on land, and with an effort thought impossible in the early months of the war. The great host holding our line in France and the other theatres of war is now equipped on a scale never dreamt of before. This effort was achieved in part at a cost of our mercantile marine, and also, in part, at the cost of our Navy. If we had continued during the war with our merchant shipbuilding on its pre-war level we should to-day have between 2,000,000 and 3,000,000 tons to the good. Expenditure of effort in one direction calls for restriction in another, and we are fortunate that we started well supplied. Even so, we have had to sacrifice to the needs of our land forces between 2,000,000 and 3,000,000 tons, but we are less than 2,500,000 tons down on the register of big ships. The position as to tonnage is that we are now expediting the output of merchant shipbuilding. In order to avoid any clashing between the vital interests of the Navy and the vital interests of the supplies of merchant tonnage, the responsibility for the whole shipbuilding programme is centred in the Admiralty under the Controller.

NAVAL MATERIEL.

As regard naval material, the Controller and the Third Sea Lord work in the closest possible touch, and are, in fact, the complement of each other. The Third Sea Lord, after reference to the naval staff or Board, when necessary, is responsible for deciding the types and quantities of material required for the Fleet, including ships and their machinery, armour, guns, ammunition, torpedoes, mines, &c. He is also responsible for the decision, in consultation with the Controller, of questions relating to the detail and the order of priority of work upon the construction and repair of ships for naval service, and all other matters in which naval consideration affect the business of production. Under the new organisation, the officers responsible for naval design and equipment worked jointly under the Third Sea Lord and the Controller. The Controller's relation to the Shipping Controller is somewhat similar, and he fulfils as nearly as may be the requirements of Sir Joseph Maclay as to design and numbers of ships produced. The Admiralty Controller has obtained the very valuable assistance of many gentlemen of eminence and experience in the duties which they have undertaken, and his Department may, I think, not inaptly be described as a 'Marine Ministry of Munitions.' The increase in shipbuilding, both actual and planned by the Government, demanded for material of all kinds, coupled with the situation created by the intense submarine warfare adopted by the enemy, demonstrated the necessity for a special Production Department of the Admiralty. It is, I think, a high tribute to the broad outlook and liberal-mindedness of the Board of Admiralty, and of the Navy as a whole, that this great change in the organisation of the Admiralty should have been introduced entirely without friction or dislocation of business.

"In carrying out the policy of the Government of giving priority to shipbuilding, our first step is to construct the balance-sheet of shipbuilding facilities available, steel and labour, that can be used therein, and of the other factors which go to make the complete ship. Every ship will undoubtedly be required. We have decided that four new national yards at least will be necessary, and in this we are following the precedent so successfully applied and so courageously carried through in the case of the Ministry of Munitions more than two years ago in the national factories. About steel, all I will say is that extensions are being made to the existing plant and that we are encouraged by the responsible Department to believe that steel will be forthcoming for the programme required. Labour is the least tangible problem. If shipbuilding becomes the point of danger, I am quite confident that labour will be forthcoming for shipbuilding. Without a united effort we cannot hope to succeed. With unity and good will we need have no fear of the result.

"In some quarters the national shipyards have been adversely criticised, as is only natural, and to be expected. One is asked the question, 'Why build new yards when the existing yards are not working to their full capacity?' The answer to that is very simple and very straight. We will not use the national yards until the existing yards are worked to their full economic capacity. We believe, as far as we can foresee the position, that it will be possible to allot steel in the forthcoming year to an extent which will enable us to utilise more capacity than exists even with the extension to the existing yards, and the new yards are being built now so that they may be ready some six months hence when the steel is available. Did we do otherwise, we would be 'too late,' and we will not let 'too late' be our motto this time. The output of merchant tonnage for the first nine months of 1917 is 123 per cent. higher than in the corresponding period of last year, and is very considerably higher than the total output for the whole of 1915. Standard vessels have been ordered representing very nearly 1,000,000 gross tons of shipping. More than half of these are already under construction.

"The Controller has been fortunate in obtaining the services and the heartiest co-operation and good will of those who are at the head of our great ship-repairing and dry-docking industry, and I will give figures to show the magnitude of this task, which has also now been entrusted to the Admiralty. There are to-day 235 dry docks of considerable size in the British Isles which can be devoted to merchant ship repairs—I exclude docks allotted to the Royal Navy. These docks, now centrally controlled, have attained a remarkable figure of user 90 per cent. of their possible maximum of time. Our monthly repair of merchant ships is 1,100 completed—dry docked and afloat—and I am glad to say that there are practically no arrears of repairs. In addition to merchant ship-repairing, we have the building and repair of warships. During the last twelve months the output of Royal Naval and auxiliary craft, measured in displacement tons, was between three and four times as much as the average annual output for the few years preceding the war.

THE SCANDINAVIAN CONVOY DISASTER.

"Having regard to the disposition of our forces on October 17, we are entitled to say that had we received wireless information—and, with three vessels suitably fitted, it is reasonable to expect that we should have received that information—the British Navy would have asked no better chance than it then had to intercept the raiders [illegible] By this case the opportunity was denied us.

"The Scandinavian convoy system was started in April of this year, and more than 4,500 vessels have been convoyed by the British Navy in that convoy alone. This is the first occasion upon which a single ship has been lost by surface attack in the Scandinavian convoy. The question who is responsible as to the strength of the [illegible] For the purpose of escorting this convoy [illegible] was under the chief Grand Fleet, and, with the forces at his disposal, and, having regard to the other duties and operations which he has to undertake at the time, he makes the best disposition possible."

GENERAL NEWS SECTION.

PERSONAL.

We are informed that the Right Hon. Lord Carmichael, G.C.I.E., K.C.M.G., has accepted a seat on the board of the British Thomson-Houston Co., Ltd.

Mr. W. B. Thompson, shipbuilder, and Mr. A. M. Brown, shiprigger, were last week reappointed municipal representatives to the Dundee Harbour Board.

Commander Sir Edward Nicholl, R.N.R., has been appointed to the important position of Economy Officer of the Petroleum Executive for the South Wales and Monmouthshire area.

Sir Richard Vassar Smith, Chairman of Lloyds Bank, has been elected President of the Federation of British Industries for the forthcoming year in succession to Mr. F. Dudley Docker, C.B.

Sir Charles Campbell McLeod, of the firm of McLeod, Russell & Co., has been co-opted by the elected members of the Port of London Authority to fill the vacancy caused by the resignation of Mr. George Theodore Crosfield.

Lieut. John P. Bibby, the youngest son of Mr. Herbert H. Bibby (of Bibby Bros. & Co., shipowners), was killed in action on October 12 last. He was 26 years of age, and for five years was with the firm of Alex. Howden & Co., of Lloyd's, and was greatly respected by all with whom he came in contact.

Mr. T. V. Ellis, J.P., Managing Director of Finch & Co., Chepstow, has received a handsome presentation in commemoration of his 50 years' service with the company. Mr. J. H. Silley, Vice-Chairman of the Standard Shipbuilding Company, in making the presentation, said the shipbuilding yards at Chepstow would be amongst the largest in the world.

Lieutenant F. C. Mundy, R.N.V.R., has died from wounds received in action. He was a nephew of Lord Tredegar. Previous to the outbreak of war Lieutenant Mundy was in the office of Sir W. J. Tatem, Bart., at Cardiff Docks, and was very popular in shipping circles, where he was looked upon as a young man who would make his mark in the shipping world.

Second-Lieut. Robert Brewis Stephenson, Northumberland Fusiliers, whose death in action was recently announced, was, previous to the war, a draughtsman at the Wallsend shipyard of Swan, Hunter & Wigham Richardson, Ltd. His father, Alderman Christopher Stephenson, who died a few years ago, was for a long time manager of the yard, and also an ex-mayor of Wallsend.

The death occurred at Hull, on October 31, of Mr. Andrew Cochrane, at the age of 77 years. He was the head of the firm of Cochrane & Sons, Ltd., shipbuilders, of Selby, widely known in connection with the construction of steam trawlers. Mr. Cochrane was a native of Wigtownshire, and at 16 years of age became an apprentice in a shipyard at Dumbarton. After following his trade as a working shipbuilder for 28 years, he commenced shipbuilding at Beverley in 1881.

Mr. Robert Samuel Weir, of North Shields, formerly in business as a ship and insurance agent, who died in July last, aged 85 years, left estate valued at £33,341 gross, and £33,277 net. Among other bequests are the following:—£2,500 to the Grosvenor Hospital for Women, Westminster; £1,000 to the Middlesex Hospital for Cancer Research; £1,000 to the Tynemouth Victoria Jubilee Infirmary; £300, part of the household effects, and the income from £5,000 to his housekeeper, Jane A. Hence.

The death occurred, on October 22, of Captain H. E. Inskip, Governor of the Royal Merchant Seamen's Orphanage, Snaresbrook. Although he had only held the position of governor for the past five months, the whole staff and also the girls and boys at the orphanage sincerely regret the loss of a chief whom they had learned to regard with feelings of confidence and trust. Captain Inskip was for several years in the service of the Orient Line, afterwards being appointed Harbour Master at Ramsgate.

Mr. William Johnston, of Woodslee, Bromborough, Cheshire and Water-street, Liverpool, who died on August 27 last, aged 76 left estate of the gross value of £632,253, of which £627,933 is net personalty. He was the founder and senior partner in the Johnston Line of steamers, now absorbed by Furness, Withy & Co., and vice-president of the Liverpool Shipbrokers' Benevolent Society. He bequeathed £100,000 for charitable, benevolent, educational, and philanthropic objects in Liverpool, and in other places where he was connected in business.

Mr. Alexander McIntyre Spence, master of the ss. *Shuna*, of Glasgow, has had the Albert Medal conferred upon him by H.M. the King. On July 3, 1917, while the *Shuna* was anchored in the River Seine, a fire broke out among some cases of grenades which formed part of the deck cargo. Captain Spence hurried to the scene of the fire, but the cases were well alight. With a few buckets of water he extinguished the fire before the first hose could be started, and he then removed the charred cases. Later on some others caught alight, but the fire was got under by means of the hose. Considerable risk was incurred by Captain Spence in rendering the service, and his prompt action undoubtedly averted an explosion and thus saved a great many lives.

The death of Mr. James Hope, which occurred at his residence in Greenock on November 2, 1917, removes from the shipbuilding circles on the lower reaches of the Clyde one of its notable figures. Mr. Hope entered the employment of Scott & Co., of Greenock, as a boy, about 50 years ago, and had been in their employment and that of the later constituted Scotts' Shipbuilding & Engineering Co., Ltd., continuously ever since. He acted as Chief Accountant and Cashier in the Shipbuilding Department and, after the constitution of the Limited Company, as Assistant Secretary. Mr. Hope's high integrity and sterling qualities commanded the respect and affection of all who came into contact with him, both in business and private life, and there must be many men connected with shipping and shipbuilding all over the world who will learn with regret of his passing.

Much regret was felt among the seafaring community of the Mersey on the announcement of the death of Commander G. H. Arnot, R.D., R.N.R., who died at his residence at Rock Ferry, Cheshire, on October 28. He was 46 years of age, and had had a seafaring career which included the *Vellore* [illegible] Co., who, at the time, had a large fleet of vessels engaged in the East Indian trade. Later he transferred into the Sierra Line, but his acquaintance with sailing vessels began and ended in the *Vellore* and *Sierra Pedrosa*, in which vessels he rose from cadet to Chief Officer of the latter ship at the age of 21 years. He then entered the service of the Warren Line, whose vessels sailed from Liverpool to Boston, and subsequently entered the Royal Naval Reserve for training as Acting-Lieutenant. After two years' training in the Navy he took command of the ss. *Ranza*, belonging to the Caledonia Steamship Company, Ltd., also engaged in the Eastern trade. Later he entered the service of MacVicar, Marshall & Co., and commanded the *Frankmere* in 1911. Commander Arnot was a member of the Executive Council of the Mercantile Marine Service Association, having joined that body in 1907.

FROM OUR CORRESPONDENTS.

CLYDE AND DISTRICT.

(From Our Own Correspondent.)

Shipyard Extensions. Alexander Stephen & Sons propose to make further extensions at their establishment at Linthouse. Just before the war broke out they completed a fine suite of offices adjoining their yard. Their next extension scheme is to include the erection of new engine and boiler shops at Linthouse, and for these plans were approved at a sitting of Glasgow Dean of Guild Court last week. It is probable that after the war the firm will add a fitting-out basin to their already well equipped establishment.

Sailors' Society Centenary.—Arrangements are being made on the Clyde for the celebration next year of the centenary of the British & Foreign Sailors' Society, the oldest organisation for seafarers in the world. Lord Inverclyde, who is interesting himself in the matter, is taking steps to form a special committee in Glasgow with a view to securing an expansion of the Society's work in the West of Scotland. He points out in this connection that the Society has rendered conspicuous service during the present war in providing recreation rooms and clubs for the men of the Navy, in succouring and caring for torpedoed crews, in providing pensions for the dependants of seamen, and in distributing comforts and literature to the men at sea. He therefore confidently appeals to shipowners and others for support in the movement which the Glasgow Committee are about to inaugurate.

Dock Labourers' Hours. It has been arranged that the Committee on Production will hold a sitting in Glasgow this week, and one of the questions to be dealt with will be an application by the dock labourers of Glasgow for an increase of 2d. per hour in wages all round and an equivalent advance for piece-work. Since that application was lodged another question affecting the working hours of the labourers has emerged, and it is expected that the Committee will deal with both the hours and wages questions at the same time. In former years it has been customary for the men to work five hours less per week during the winter months than in the summer on account of the shorter period of daylight. This year, however, they have protested against the curtailment on the ground that it means a loss of 5s. in their weekly earnings. There was a threat last week that the men would take drastic measures in support of their protest, but ultimately they agreed to submit the matter to the Committee on Production for settlement.

Meeting-place for Merchant Service Officers.—After an interval of some years the Mercantile Marine Service Association are about to re-open a fully-equipped office in Glasgow, which will serve as a meeting-place for officers of the Merchant Service. The want of an establishment of this kind has been greatly felt on the Clyde since the Association's offices were closed some years ago. There are, no doubt, many captains and officers who still remember the comfortable rooms of the Scottish Shipmasters' and Officers' Association before the amalgamation of that society with the Mercantile Marine Service Association. The new offices, when established, are practically certain of success, as a number of prominent men connected with the merchant service are interesting themselves in the matter. Among these is Captain J. C. Black, M.I.N.A., the well-known marine superintendent for Raeburn & Vérel, of the Monarch Line. Captain Black, who is equally at home among marketing officers as well as among seagoing engineers, holds the somewhat unusual combination of a certificate as extra-master and also a certificate of chief engineer.

Shipbuilders and Disabled Soldiers.—To the ordinary individual there does not seem to be much connection between shipbuilding and the art of making artificial limbs for disabled soldiers, yet several Clyde shipbuilders have done such good work in the latter direction that it is worthy of special recognition. At the last annual meeting of the Scottish Hospital for Limbless Sailors and Soldiers, held in Glasgow last week, the interesting announcement was made that the limbs being supplied to the men treated at the institution were all made in Clyde shipyards, and also that a lead had been given to the artificial limb industry by the initiation of a scheme of standardisation introduced by a Clyde shipbuilder. In the course of a warm tribute to Clyde employers and workmen Sir William MacEwen said the hospital authorities were told that they could not get artificial limbs unless they employed alien labour. This work was, however, taken up by Mr. Harold E. Yarrow, at Yarrow's shipyard, and by William Denny & Brothers, Dumbarton, and that other shipbuilders had also given splendid help. At Yarrow's yard not only were they making artificial limbs, but they had taken up the standardisation of such limbs as far as that was possible. In London they had not yet reached that stage. The amount of work that Mr. Yarrow had done in aid of this movement was enormous.

SCOTTISH EAST COAST DISTRICT.

(From Our Own Correspondent.)

Leith Dock Commission.—The election of members to the Dock Commission of Leith last week resulted in the following gentlemen being appointed:—Mr. Thomas Cowan (elected by shipowners); Mr. Robert Smith and Mr. James Cowan Hill (elected by Harbour ratepayers). A number of other members will be appointed later by various public bodies in the district.

Dundee Harbour Finances.—At a meeting of Dundee Chamber of Commerce last week a report was submitted on the working of Dundee harbour during the year. In the course of the report it was stated that the revenue of the port suffered, while the expenditure on maintenance had to go on. Like most harbour authorities, the Dundee Trustees were obliged to raise their rates one-third above the maximum under the Harbour Act. They had also got powers to borrow an additional £200,000 after the war. The rent roll was steadily increasing and the revenue for the warehouses was also going up. The extension of the Caledon shipbuilding yard would prove of great importance to the community. The only ground with a river frontage that was now vacant was a piece about six acres in extent at the extreme east end of the estate, and there was at present an inquiry for it. The Trustees had offered the frontage recently to a company for the construction of ferro-concrete vessels, but the site was not found suitable. The whole question of harbour extension, it was also stated, was under consideration by a sub-committee of the Harbour Trust.

Leith Nautical College.—A satisfactory report was submitted at the annual meeting of the Governors of Leith Nautical College last week. It was stated that the year, so far as the College was concerned, had been one of steady progress. There had been an increase in the number of students attending the day classes, and there had been 151 successful candidates at the Board of Trade examinations, which was a decrease on the numbers successful in the preceding year. Mr. J. Bolam, principal, stated that the attendance of students, whether officers of the Royal Naval Reserve, or other branches of the sea service, at the College had been restricted in length of time and irregular. External fishermen's classes this year had been completely stopped by the war. The Board of Trade had intimated a revision of the subjects of examination for extra masters, masters, and mates, with considerable additions to the subjects, the changes to come into operation at the beginning of January next. The revision was, he thought, on right lines, but the date of the introduction of the change was most inopportune. Mr. C. W. Cousland, who presided at the meeting, also commented on the changes about to be introduced by the Board of Trade. The intimation that a revision would be made in the subjects for examination was, he said, made about two years ago, at a time, perhaps, when it was contemplated that the war was not going to last so long. He thought it might have been better if the changes had been postponed till times were a little nearer normal. It would mean increased work and more time ashore for the students, and to that extent the number of men available for sea would be affected. The raising of the standard would, he supposed, mean greater efficiency, and quite possibly the Government, now that they were going in for new standard steamers, might think that they required officers to match. Also it was putting a considerable strain on the men at a time when the burden was already pretty considerable.

NORTH-EAST COAST DISTRICT.

(From Our Own Correspondent.)

Increase of Tyne Tolls and Charges.—The River Wear Commissioners, like the Commissioners for the Tyne, has increased its tolls, dues, and charges by 50 per cent. over the statutory scale, and the new rates came into operation on November 1. The previous increase of 50 per cent. imposed from July 1 last was rescinded by the Commissioners at their last meeting, in order that the enhanced scale can take effect.

New Shipyard on the Wear.—The Building Committee of Sunderland Corporation has approved of the plans relating to the new shipyard on the Wear for the Eggs Shipbuilding Company. The site is one of about twenty acres, and as part of the works is in the rural district, the plans will also have to be submitted to the Sunderland Rural District Council. The constructional work is to be pushed forward without delay.

Shipyard Extensions.—There is not much unoccupied land on the banks of the Tyne between the harbour mouth and Newcastle, but it is rumoured that whatever available ground there is will be taken up for shipyard extension purposes. Enquiries are now on foot, it is said, with this object in view, and yards that can be enlarged are to be made the most of in the near future. One or two of the largest yards might be developed to a considerable extent, one in particular, because the site lends itself to a scheme of this kind, and berths might be added here and there at other establishments. It is quite certain that the river is going to be made to yield its biggest possible production in the next two years.

Machine Workers' Wages.—The United Machine Workers' Union on the North-East Coast is dissatisfied at the recent decision of the Ministry of Munitions that the grant of an advance of 12½ per cent. to engineers, turners and moulders, does not embrace the machine workers. Resolutions protesting against their exclusion have been forwarded to the Minister of Munitions. The point to be remembered is that the men who have received the increase are skilled artisans, and machine workers do not come within that category, however strong a claim they might make out in war time when the semi-skilled men are rendering such valuable service in the engineering shops. In the dilution of labour scheme, the engineers and the turners and the moulders have done a great deal in the training of unskilled men, and it has transpired that a good many of the pupils quickly became so efficient as to be able to earn more than their teachers, and hence it is that the latter have come in for a little extra recognition.

Increased Supply of Steel.—Discussing the effort to realise a 3,000,000 tons shipbuilding programme next year, the Journal of the Iron and Steel Trades Confederation states that steps are being taken to secure an increased supply of plates, and that new steel works are being erected and extensions are taking place in several districts. In the Tees district some £5,000,000 of new capital is being expended on extensions of steel works, shipyards and engineering establishments. The report concludes with a note of cheering patriotism which has characterised the steel workers of the nation right through the war, thus:—"Though the output of steel was some 7,000,000 tons before the war, and 11,000,000 tons during the past 12 months, efforts are being made to secure a 12,000,000 tons output in 1918. We know that the members of the Confederation will put their backs into the matter and see to it that the shipbuilders get their steel. Without steel these ambitious programmes cannot be carried out, and every man who does his best to increase output is performing a national service."

Orders from Neutrals.—There is no more alert body of shipowners in the country than the North of England Association, as has been witnessed by their prompt ventilation of the question concerning the placing of orders in this country by neutrals for ships to be delivered after the war. Following upon this, the Association has now drawn attention to the law passed by the Norwegian Government providing for part of the excess profits being refunded to Norwegian shipowners to enable them to replace lost tonnage, up to half cost per steamer, on the production of the building contract, and also to the threatened control of shipping and shipbuilding in Holland by Germany. Resolutions on these subjects have been forwarded to the Chamber of Shipping, and the North of England representatives have been instructed to support them. British shipowners need to be very much alive to future eventualities if they are to be in a position to cope with after-the-war competition, which is sure to be severe from neutral quarters, for the simple reason that the latter have done so well out of the great conflict. Foreign money will "talk" in shipbuilding as it has never done before, and it is well that the British shipowner should try and visualise every conceivable possibility in regard to the ocean carrying trade of the immediate future.

Education of Apprentices.—The North-East Coast Institution of Engineers and Shipbuilders had reason to be gratified at the sympathetic manner in which [illegible] for the better education of apprentices was received when presented by a deputation, including the Duke of Northumberland, to the Minister for Education. Mr. Herbert Rowell, chairman of R. and W. Hawthorn, Leslie & Co., Ltd., and president of the Institution, presented the case, and said it was considered that the most suitable type of school for the prospective engineer was the junior day technical school—a distinct type of higher school, in no sense inferior to a secondary school, which boys could enter direct from the elementary schools for a full-time three years' course of directed preparatory education before beginning their apprenticeship. The superintendence of these schools, it was suggested, should be under the direction of employers, as represented by the North-East Coast Institution of Engineers and Shipbuilders, and employees and education authorities. Mr. Fisher promised to give very careful consideration to the points raised by the deputation as to the regulations governing the junior day technical schools, and said he regarded the interview as a very encouraging sign of the interest large employers of labour were taking in the promotion of technical education in the country.

Interests of Iron and Steel Merchants.—The iron, steel and metal merchants of the North-East Coast have taken steps to strengthen their position in view of any policy which might be detrimental to their interests. At a largely attended meeting of the trades concerned at Darlington on Thursday, the following resolution was agreed to:—"That this meeting of iron, steel and metal merchants of the North of England, whilst assuring the Government of their hearty co-operation in order to bring the war to a successful termination, nevertheless protests against any unnecessary interference with their legitimate business, and demands that the same consideration should be accorded to them as is being shown to the manufacturers. Further, they warn the Government that any attempt to eliminate the merchant, and prevent him employing his capital and carrying on his ordinary business after the war, will be attended with grave consequences to the community at large, besides proving a valuable asset to the enemy in his efforts to recapture trade in the world's markets." We may take it that the feared elimination would come if the consumer dealt directly with the manufacturer. A North-East Coast Association of Steel, Iron and Metal Merchants was formed, and it was decided to seek affiliation with the Federation of British Merchants in London. A representative committee appointed to formulate rules included Sir Johnstone Wallace, an ex-Lord Mayor of Newcastle.

MERSEY DISTRICT.

(From Our Own Correspondent.)

The Liverpool Engineering Society.—The opening meeting of the winter session was held on Wednesday evening this week when Mr. Harold Dickinson delivered his presidential address. Mr. Dickinson is the electrical engineer for the City of Liverpool.

Vessels should carry Motor Boats.—The Council of the Mercantile Marine Service Association have submitted to the Board of Trade the practical suggestion that every vessel should be compelled to carry a motor boat of 40 h.p. with a qualified engineer in charge, so that shipwrecked seamen need not suffer under torture when set adrift by the enemy on the open seas.

Boycott of Germans.—The Merchant Seamen's League meeting, held here on Sunday and addressed by Lord Beresford and Mr. J. Havelock Wilson, adopted with the utmost enthusiasm the League's pledge to boycott the Germans and punish them "for their gross inhumanity, ferocious barbarism, and the terrible, cowardly and wicked murders they had committed on the high seas." This boycott, according to the resolution passed, is to be continued for two years after peace terms have been arranged, and one month's boycott added for every subsequent crime committed by the Germans on land or sea.

Pensions and Superannuation.—The quarterly report of the Mercantile Marine Service Association also observes that an interesting and particularly gratifying feature of the wages question is the steadily increasing number of pensions and superannuation schemes which are being founded by shipowners for the benefit of their masters, officers, and engineers, Alfred Holt & Co., of Liverpool, being the most recent firm to fall into line. Their scale of superannuation allowances has been drawn up, it is stated, on the basis of £10 for a master and £7 for a chief engineer, for every year that the recipient has served with the company.

Norwegian Chamber of Commerce.—Mr. John Vogt, of Vogt & Magnus, Liverpool, [illegible] Norwegian Consul, [illegible] this

port, has succeeded in founding a Liverpool branch of the Norwegian Chamber of Commerce which he hopes will lead to an extension of the great commercial interests of Anglo-Norwegians. At a meeting of shipping and commercial men interested in the trade with Norway, held in Liverpool on Friday, the Liverpool District Committee of the Norwegian Chamber in London was formed as follows:—Colonel J. P. Reynolds, D.S.O., Messrs. Alfred Chandler, S. J. Lister, R. W. E. Evans, Henry Tyrer, W. Smellie, Consul John Vogt, J. P. Jackson, C. F. Holmboe, E. Wiese, E. Wallace, and T. Dobell.

SOUTH WALES DISTRICT.

(From Our Own Correspondent.)

Coal for Shipment and Bunkers.—There has been great controversy in regard to the increase of 2s. 6d. per ton on the price of coal. The matter has been finally disposed of by an announcement made on behalf of the Coal Controller to the effect that the increase applies to all coal for shipment or bunkers, except to cargoes for France and Italy. The charge applies to bunkers supplied to steamers loading for France and Italy or any other destination. In spite of the unfairness of the incidence of the Controller's decision, every practical effort will be made to give effect to his recent directions.

Outward Coal Freight Rates.—The course of rates in October is indicated in the following table, which shows the lowest rate paid, the average rate, also the average rate for the corresponding month last year, to representative ports:—

Cardiff to	Lowest in October	Average Oct., 1917.	Average Oct., 1916
Algiers	105	105	62/6 to 82/6 tr.
Bordeaux	69/	69/	47/6 to 55/ tr.
Brest	45/-	45 -	22/6
Bilbao	180/-	180/-	31
Bayonne	56/-	56/-	50/0½ tr.
Caen	46/6	47/-	25/8½
Guernsey	47/3	47/3	24/0½
Chantenay	61/6	61/6	40/30 fr.
Havre	45/9	45/9	22/11¾
Rouen	24/6	42/8½	24/10½
St. Malo	21/-	28/10	21/10
St. Nazaire	61/6	61/6	40/30 fr.
Tonnaise	105	47/5	24/-

Pooling of Coal Shipments.—At a meeting of coal exporters to Italy, held at Cardiff, the question of the bringing into operation of a pool for all Italian coal export business for the Cardiff district was dealt with. The meeting also considered the rules drafted for carrying out the proposed arrangement. It was decided that a pooling arrangement be formulated to take effect as from November 1, 1916, to include all shipments on and after that date, this being the date when the Italian scheme came into operation, and that this arrangement should remain operative for the duration of the limitation scheme. After making some amendments, the rules, as drafted, were adopted. The new arrangement includes the provision that the Local Committee should retain the power of allocating business to any particular firm for the carrying out of the business in accordance with the terms of the scheme, and that a pittage of 1½d. per ton should be allowed the firm concerned in respect of each transaction. It was also agreed that six representative firms should be appointed for carrying the business and that these firms, or their representatives, should be changed every six months. It was further provided that a separate banking account would be opened in the name of the Cardiff Coal Exporters' Pooling Section, and that the accounts should be dealt with by the secretary and two appointed members.

THE FREIGHT MARKETS.

(From Our Own Correspondents.)

London.—Chartering business on the Baltic Exchange is still confined within very narrow limits, and as the demand for carrying space greatly exceeds the supply, rates rule at a high level, and owners of unemployed tonnage are able to name their own terms. The strongest sections of the market are still the East and the Northern Range. Homeward from the River Plate there is little doing on the basis of 105s. for the upper ports, and 100s. for down river loading. The ports of the North American Atlantic seaboard are anxious to find tonnage, which is in very sparse supply. On net firm of charter, the rates from the Northern Range to the United States, 230s. to Boston, 260s. to New York, 260s. For Gulf loading, an additional 30s. on these figures would be paid. For heavy grain, 30s. can be had from the Range to the United Kingdom, 32s. 6d. to France, and 35s. to Italy. Oats to this country are worth 25s., and to France, 27s. 6d. Virginia coal charterers are still trying to secure vessels for cargoes to the Plate at 125s., a rate which has not proved attractive. To Rio de Janeiro, 832 is offered, and to Chili, 71s. The nitrate ports would do business at 185s. to the United Kingdom, and 200s. to Vladivostok, while coffee could be worked at $1.40 from Santos to New York. The same strong demand continues from the East, where charterers remain unsatisfied. From Karachi to the United Kingdom, 250s. to 260s. can be had on scale basis. On deadweight, Bombay would pay 260s. to 275s. to the United Kingdom, and 400s. to the Mediterranean. From the Madras Coast, kernel cargoes could be worked at 550s. to Marseilles. The rice ports are prepared to pay very high figures, and 600s. could, without difficulty, be obtained from either Burmah or Saigon to this country or France. The Mediterranean section of the market keeps quietly steady, a good deal of tonnage being engaged in carrying ore and phosphates from the ports of South Spain and North Africa. From Huelva to the Mersey, 45s. is the ruling rate, Huelva to the East Coast, United Kingdom, 60s.; Bilbao to Boulogne, 50 francs; Bougie to the Clyde, 50s.; Sfax to Bristol Channel, 70s.; and Tunis to the Clyde, 65s. In the Bay, trade rates are indicated by fixtures at 22s. 6d., Bordeaux to Bristol Channel.

Glasgow.—There are comparatively few fresh developments on the Glasgow market to record since our last report. In both the outward and homeward trades tonnage was as scarce as ever, and the demand was much in excess of the supply. There was a strong request for space for all destinations. A few time charters were reported, including the following:—General trades, including Transatlantic, 46s. 6d., six months; United Kingdom, Dunkirk, Sicily trade, 1950, 49s., six months; States and West Coast South America, 2,500, 42s. 6d., owners pay war insurance, one round trip, delivery Northern States, ppt. A fixture was also reported, New York to Liverpool, 230s. net form. Ship chartered, Australia to San Francisco or Vancouver, 90s.

Newcastle-on-Tyne.—The shortage of shipping continues to exercise its baleful influence on the local coal trade and is at the moment responsible for the total suspension of work at many local collieries and for the working of short time at many others. There is a brisk demand for coal cargoes for early shipment and, consequently, for steamers for early loading; but, in the absence of the latter, it is useless to take steps to fulfil the former. As a result, the freight market is as near stagnation as it can safely get. Most of the charters arranged during the week are for small vessels for the carriage of coke or pitch to French Atlantic ports, at the scheduled figures. The only other business done, indeed, has been the engagement of two steamers for Gothenburg—one at 184 kr. and the other at 190 kr.—and of one steamer for Stockholm at the even 200 kr. These rates show a rally as compared with those reported last week when Gothenburg ranged from 183½ kr. to 187½ kr., whilst Stockholm varied from 195 kr. to 197 kr. The demand for vessels for Swedish discharge shows no abatement. Coasting business is quoted at 20s. 6d. to London. Spanish Bay ports are listed at 160s. to Bilbao or Santander. Portugal is unaltered at 95s. to Lisbon and 105s. to Oporto. Gibraltar is firm at 100s. Barcelona is now quoted at 260s. It is noteworthy that a 3,100-ton vessel for that port was locally chartered for Middlesbrough loading a few days ago at 262s. 6d.

Liverpool.—The outward freight market is much the same as a week ago—slow, but firm. Inquiries are fairly numerous, but fixings are confined to the very limited tonnage available. Time chartering has been more active, and there is still a brisk demand for suitable boats. A 2,000-ton d.w. boat got 49s. for six months, trading from United Kingdom to Dunkirk-Sicily Range; while 35s. was paid for two round trips in the States-West Indies trade, and 42s. 6d. for a round from States to East and West Coasts of South America, owners paying war insurance. In the homeward trades Eastern freights are at their highest level, but no fixtures are reported through tonnage scarcity. Australia is reported to have paid 130s. in fixing a 6,000-ton boat with wheat to the United States, East Coast port. Mediterranean freights homewards firm, with a good demand, and good rates obtainable from the Spanish ports for fruit, &c., to United Kingdom. North America maintains a good demand all round, but tonnage response is poor. Net charter paid 260s. New York to French Atlantic, while 230s. is offering to United Kingdom, and 360s. to Italy from Northern Range. Grain

offers 35s. Range to United Kingdom, while 600s. still offers for lumber to the Plate from the Gulf, and 280s. for sugar, Cuba to France. River Plate without change, and 145s. is the nominal rate at up river port.

Cardiff and Swansea.—Conditions on the market have ruled generally unchanged. A firm tone has prevailed, and maximum rates have been easily maintained. Numerous orders were about, but business is restricted on account of the scarcity of boats. The unsettled conditions in the coalfield have also deranged business to some extent. With the exception of an Allied vessel fixed for Gibraltar at 100s., transactions reported have been for France, viz.:—St. Malo, 45s. (neutral); Rouen, 49s. 6d., fuel (neutral); Bayonne, 36s. (Allied), and St. Nazaire, 61s. 6d. (neutral). Three small sailing vessels have been fixed—Cardiff to Morbaix, 120 francs; Newport to Morbaix, 120 francs; and Cardiff, option Swansea loading, to Cherbourg, 110s. On the Swansea market a brisk inquiry has been in evidence, and the firmness of quotations remains pronounced. The only fixtures reported were for France:—Caen, 46s. 6d. Rouen, 47s. 6d., 48s., 48s. 9d.; Bordeaux, 69s.; Rochefort, Port Talbot loading, 61s. 6d.; and Rouen, also Port Talbot loading, 49s. 6d., fuel. The whole of these transactions were for neutral vessels. A small sailing craft was fixed at 100s. for Dieppe.

COMPANY MEETINGS.

Sir W. G. Armstrong, Whitworth & Co., Ltd.—As the accounts for the past year were not quite ready for presentation, the business at the opening of the 23rd ordinary general meeting which was held in Newcastle, on Saturday, was only of a formal character. Mr. J. M. Falkner (Chairman), Sir Percy Girouard, Col. A. G. Hadcock, and Mr. J. H. B. Noble were re-elected directors. In moving the re-appointment of the auditors (Monkhouse, Goddard & Co.), Mr. T. Reed remarked that there were between 70,000 and 100,000 persons employed by the firm, and said it would give some idea of the work of the auditors when he stated that a truck was necessary to convey the money for the payment of wages. The resolution was agreed to, and the meeting was adjourned until such time as the accounts for the past year were ready for submission to the shareholders.

COMPANY REPORTS AND DIVIDENDS.

Canada Steamship Lines, Ltd.—The directors announce a dividend of 1¾ per cent. on the preference shares and 3½ per cent. payable January 2, 1918.

Nitrate Producers' Steamship Company, Ltd.—The directors announce an interim dividend of 20 per cent. per annum, free of income tax, on the issued ordinary shares for the half-year.

Manchester Dry Docks Company, Ltd.—The directors announce a second interim dividend of 5 per cent., free of income tax, on the ordinary shares for the year ended October 31. In the preceding year there was one interim dividend, plus 13½ per cent. final, less income tax.

Mersey Docks and Harbour Board.—The report for the year ended July 1, shows receipts amounting to £2,245,360, against £2,152,752; and after paying interest and all charges and carrying £100,000 to sinking fund there is a balance of £12,540 to transfer to unappropriated receipts account. Work of a capital nature debited to this account amounts to £37,273, and the balance in hand, including this year's allocation, is £531,241.

Liverpool & North Wales Steamship Company, Ltd.—The report for the year ended October 31 is now available. After deducting the sum of £10,500 for depreciation on steamers, investments, &c., the amount available for dividend and other purposes, including the balance brought forward, is £9,254, out of which the directors recommend payment of a 10 per cent. dividend, less income-tax, and carrying the balance of £2,884.

Spanish Shares.—The profits realised by Spanish owners during the war are reflected in the quotations of their shares on the Bilbao exchange. The rises in price from the end of 1914 to the end of 1916 were as follows:—Compania Naviera Sota y Aznar (90,000 gross tons), from 131 to 1,720 per cent. Compania Maritima Union (24,000 gross tons), from 44 to 1,375 per cent. Compania de Navegazion Olazarri (23,000 gross tons), from 54 to 1,380 per cent. Compania Aurrera, from 25 to 610 per cent. Compania Naviera Bachi (12,000 gross tons), from 89 to 1,670 per cent.

London-American Maritime Trading Company, Ltd.—The directors recommend the payment of a final dividend of 7 per cent. for the year ending July 31 last, making 12 per cent. for the year. The profits and dividends from the inception of the company are as under:—

Year ended July	Profits. £	Preference dividend per cent.	Ordinary dividend per cent.
1915	126,161	11½	27
1916	139,943	11	50
1917			12

London Maritime Investment Company, Ltd.—The report states that the gross revenue is £27,900, as compared with £23,900 in the preceding period and £20,200 in 1914-15. The net profit comes out at £26,200, as against £21,900, and the dividend on the Ordinary stock is unchanged at 6 per cent. The allocation to reserve, however, is raised from £5,600 to £11,700, and as £8,200, as against £31,900, profit on realisations is also added, the total of the fund is now £70,000, all of which is invested in five per cent. War Loan. The carry forward is virtually intact at £2,300. The market value of holdings is not given, but the directors say that appraisement as at September 30 shows that capital and reserve are fully covered.

Nautilus Steam Shipping Company, Ltd.—The report for the year ended June 30 last shows that after providing for all management charges, audit fees, income-tax and excess profits duty there remains a profit of £193,895, to which is added £24,073 brought forward, making a total of £217,968. Of this, £100,366 has been appropriated for debenture interest, interim dividends, depreciation and reserve. It is recommended that £83,775 be set aside for redemption of debentures, thus relieving the company of this heavy liability, and a final dividend of 5 per cent. be now paid, the balance of £25,934 being carried forward. The company's steamers are now either directly employed by the Government or continue in the regular trade with South America under the control of the Ministry of Shipping, the voyage profits being appropriated by the Government and the company paid for each steamer on a monthly time hire basis. The tonnage owned by the company is slightly greater than was recorded last year. The profits and dividends for the last five years compare as follow:—

Year ended June.	Profits. £	Dividends and Bonus. per cent.
1913	61,645	8
1914	48,841	1
1915	88,000	12
1916	186,544*	40††
1917	193,894	40

* After providing for excess profits tax, &c.
† Includes special bonus of £2 10s. per share.

Madras Port Trust.—The Administration report of the Madras Port Trust for the year 1916-17 states that revenue receipts from all sources were Rs. 13,13,310, against Rs. 11,66,697 in 1915-16, an increase of 12·56 per cent.; but Rs. 1,14,998 out of the increase was due to an enhancement in the scale of charges, the principal of which was an enhancement of 25 per cent. in harbour dues on imports and exports with effect from August 2, 1916. Gross revenue expenditure was Rs. 11,92,825. Excluding from working expenses the interest on loans, which in the year under review came to Rs. 4,91,151, actual working expenses came to 53·35 per cent. of actual harbour earnings, against 50·81 per cent. in 1915-16. The following statement summarises the financial position after 30 years' working:—

	Rs.
Receipts on Revenue account	[illegible]
Expenditure on [illegible]	[illegible]
Profit on working	[illegible]
Port fund surplus allotted by Government	17,95,237
Temporary loan from Government	[illegible]
Grants from Government	15,00,000
Loan [illegible]	[illegible]
Total net receipts	[illegible]

These receipts have been disposed of as follows:—

Balance at beginning [illegible]	[illegible]
... [illegible]	[illegible]
Depreciation [illegible]	[illegible]
Port [illegible]	[illegible]
Contribution by [illegible]	[illegible]
	[illegible]

During the year 399 vessels, including 287 from foreign and 74 from coast ports and 38 country sailing craft, with an aggregate tonnage of 961,708 tons, called at the port, against 380 vessels, [illegible]

Orders & Handford Steamship Company, Ltd.—The report with the statement of accounts for the year ended October 31, 1917, has just been issued. The net profit amounts to £19,869, to which has to be added the balance of £5,451 brought forward from the last account, making a total of £25,320. An interim dividend of 5s. per share (free of income tax) was paid on April 30 last, and the directors now recommend a final dividend of 5s. per share (free of tax), making a return of 10 per cent. for the year, and that the balance of £15,770 be carried forward. Profits and dividends for the last five years compare as follow :—

Year ended October.	Profits.	Ordinary dividend per cent.
1913	£[illegible]	15
1914	12,815	5
1915	64,477	20
1916	29,841	5
1917	19,869*	10

* After providing for excess profits duty, &c.

COMPANY REGISTRATIONS.

R. & J. Park, Ltd.—Capital, £25,000, in £1 shares. Objects, ship owners, builders and repairers, shipwrights, dock owners, ship and insurance brokers, &c. Signatories :—

R. J. C. Park, 120, Fenchurch Street, E.C., shipowner.
F. G. Buckeridge, [illegible] Bellwood Road, Nunhead, S.E., freight broker.

Permanent governing directors, R. J. C. Park. Solicitors : Ward, Bowie & Co., 7, King Street, E.C. Private company.

Larne Shipbuilding Company, Ltd.—Capital, £30,000, in £1 shares. Objects, to take over the business of the Larne Shipbuilding Company, Larne, Antrim. Signatories :—

Jas. Clunies, 50, Wellington Street, Glasgow.
John H. Clark, 124, St. Vincent Street, Glasgow.
E. G. Stirling, 2, Wellmeadow Street, Paisley.

First directors are not named. Registered office : 50, Wellington Street, Glasgow. Private company.

T.D.S.S. Syndicate, Ltd.—Capital, £2,000, in £1 shares. Objects, shipowners, shipbrokers, shipwrights, barge and tug owners, lightermen, dredgers, salvors, engineers, freight contractors, wharfingers, carriers, forwarding agents, &c. Signatories :—

F. W. Tagg, 10, Tressillian Road, Brockley, S.E. (4), accountant.
J. A. Bernard Jackman, 58, Margaret Street, W. (1), solicitor.

The first directors to be appointed by the subscribers. Registered office : 58, Margaret Street, W. Private company.

Marine & General Concrete Construction Syndicate, Ltd.—Capital, £600, in £1 shares. Objects, to acquire the patents applied for by E. O. Williams for inventions relating to improvements in the construction of ships, &c. Signatories :—

F. Weil, 15, Victoria Street, S.W., engineers' contractor.
E. O. Williams, 2, Victoria Mansions, Albert Bridge Road, S.W.

The first directors are J. B. Comyn, E. O. Williams, F. Weil and A. L. McColl. Registered office, 15, Victoria Street, S.W. Private company.

Ansell, Jones & Co., Ltd. Capital, £25,000, in £1 shares. Objects, to take over the business of a metal founder and worker formerly carried on by W. Ansell, as "Ansell, Jones & Co.," at Naval Works, Kensington Street, Birmingham, also to carry on the business of manufacturers of and dealers in metal work for ships, yachts, boats, barges and docks, ships' pulley and block manufacturers. Signatories :—

W. Ansell, 67, Bristol Road, Edgbaston, Birmingham, metal worker.
F. E. Ansell, "Parkfield," Hagley Road, Edgbaston, Birmingham, metal worker.

The first directors are W. Ansell and F. E. Ansell (each of whom may retain office while holding [illegible]). Registered office, Naval Works, Kensington Street, Birmingham. Private company.

Law, Bax & Co., Ltd. Capital, £10,000, in £1 shares. Objects, to carry on in the United Kingdom, the Colonies, India and abroad the business of manufacturers of and dealers in paper, straw and other boards, rope-making materials, rope walks, cable ; also shipowners, wharfingers, barge owners, carriers by land and water, &c. Signatories :—

Sir Hy. Bax Ironside, K.C.M.G., 23, Grosvenor Place, S.W. (1).
A. Wardill, 327, Brownhill Road, Catford, S.E. (6), paper merchant.
W. Harrison, 1, Raymond Buildings, Gray's Inn, W.C., solicitor.

The first directors are Sir Henry Bax Ironside (chairman), W. Harrison and A. Wardill. Registered office, 20-21, Queenhithe, E.C. Private company.

Sailing Ship "Inverclyde" Company, Ltd.—Capital, £20,000, in £10 shares. Objects, to acquire, charter or hire the sailing ship *Inverclyde*. Signatories :—

F. Windram, 17, Brunswick Street, Liverpool, shipowner.
J. M. Calhoun, 7, Brunswick Street, Liverpool, manager.

Managers, G. Windram & Co., Liverpool. Solicitors, Weightman, Pedder & Co., Liverpool. Private company.

Rowland & Co., Ltd.—Capital, £10,000, in £1 shares. Objects : To purchase, charter, hire, build or otherwise acquire and hold steam and other ships or vessels, to convey passengers, mails, troops, munitions, produce and merchandise, &c. Signatories :—

G. C. Hayward, 11, Stonefield Street, Islington, N. (1), clerk.
W. C. Gurney, 112, Chestnut Avenue, Walthamstow, E. (17), clerk.

The first directors are to be appointed by the subscribers. Solicitors : R. G. Edwards and Bull, Fisher Street, Swansea. Private company.

Lake Finance Syndicate, Ltd.—Capital, £100,000, in £1 shares. Objects, to carry on the business of financial agents, shipbrokers, chartering and loading brokers, insurance, passenger and general brokers, managers of shipping and other property, ships' husbands, shipowners, tug proprietors, lightermen, &c. Signatories :—

T. J. F. Brown, 172, Rosendale Road, Dulwich, S.E., manager.
T. Edwards, 11A, Vaughan Gardens, Ilford, Essex, secretary.

The first directors are to be appointed by the subscribers. Registered office, 29, Great St. Helens, E.C. Private company.

Marquis Clayton & Co., Ltd.—Capital £50,000, in 5,000 shares of £10 each. Objects, to acquire the business carried on by Marquis Clayton & Co., 14, Chapel Street, Liverpool, produce merchants, cold storage keepers, ship and insurance brokers, shipowners, &c. Signatories :—

J. Clayton, 14, Chapel Street, Liverpool, merchant.
F. K. Kielburg, 14, Chapel Street, Liverpool, produce broker and merchant.

The first permanent directors are J. Clayton and F. K. Kielburg. Solicitor, R. H. Armstrong, 14, Castle Street, Liverpool. Private company.

United Stores Delivery Company, Ltd.—Capital, £10,000, in £1 shares. Objects : Deliverers and collectors of goods in connection with stores or trading establishments, general carriers, forwarding agents, charterers of ship and vessels, wharfingers, &c. Signatories :

J. B. Meers, C.B., J.P., 42, Lancaster Gate, W.
C. G. Selfe, Woodfield Avenue, Streatham, S.W., company director and manager.

The first directors are :—Warwick Brookes, M.P., Sir Frederic W. R. Fryer, K.C.S.I., J. B. Meers, C.B., and C. G. Selfe. Registered office : 70, Ambergate Street, Kennington, S.E. Private company.

Wilson, Copley & Co., Ltd.—Capital, £15,000, in £1 shares. Objects, to take over the business of an ironfounder and engineer carried on by J. W. Brown, in connection with premises in Commercial Street, Middlesbrough, as "Wilson, Copley & Co.," and the business of [illegible] engineers, marine, electrical and general engineers and boilermakers carried on by the said J. W. Brown and W. H. Crosthwaite, in connection with premises in North Street, Middlesbrough, as the North Street Works. Signatories :—

H. Copley Wilson, 32, Rockliffe Road, Middlesbrough, ironfounder.
J. W. Brown, The Leazes, Linthorpe Avenue, Middlesbrough, iron merchant.

The first directors are J. W. Brown and W. H. Crosthwaite. Solicitor, A. H. Parkin, 77, High Street, Stockton-on-Tees. Private company.

Rio Cape Line, Ltd. Capital, £300,000, in £1 shares. Objects, to acquire 624 [illegible] shares or interests in ships and vessels of all kinds, to sell, exchange, dispose of or deal with the same, to acquire by purchase, exchange, charter, hire or otherwise steamships, vessels or craft of any description, to sail or employ such vessels under the British flag, to have the same or any one or more thereof registered in their own name, or in the name of any company, association, combination, syndicate, individual or nominee, either permanently or temporarily, in the United Kingdom or elsewhere, and to carry on the business of shipowners, shipbrokers, steamship agents, managers of ships and shipping companies, coal exporters, timber merchants, commission agents, &c. Signatories :—

[illegible]

The first directors are the Right Hon. Lord Furness, F. W. Lewis, W. Furness, E. Furness and R. E. Burnett. Qualification, £500. Remuneration as fixed by the company. Registered office, Milburn House, Dean Street, Newcastle-on-Tyne. Private company.

NEWS PARAGRAPHS.

Shipbuilding at Warren Point.—J. & R. Thompson, Ltd., Belfast, intend, it is stated, to commence shipbuilding at Warren Point at an early date.

Launch of a 12,000-ton Ship.—The *Alps Maru*, built at the Osaka Iron Works for the Osaka Shosen Kaisha, was launched recently. The new vessel, which is for the transpacific service, is of 12,000 tons deadweight.

South Africa and Mercantile Marine.—On October 22 the Congress of South African Chambers of Commerce adopted a resolution expressing admiration for the splendid sacrifices made by the Imperial Forces and determination to assist in bringing the war to a victorious issue; also recording its profound admiration for and obligation to the mercantile marine.

New Fish-Carrying Scheme.—A company has been formed with a capital of £250,000, for the transport of fish caught in Newfoundland waters direct to the United Kingdom. Several motor-boats, with a speed of about 14 knots, are now being built at Stockholm with this object in view, the estimated consumption of oil fuel being about 3½ tons a day.

Cardiff Shipowners' Enterprise.—In Cardiff shipping circles it is freely reported that J. C. Gould & Co. have acquired a large fleet of steamers. It is stated that the fleet in question has a deadweight capacity of 62,000 tons, and involve something like a million sterling. J. C. Gould & Co. are the managing owners of the Cardiff shipowning companies Dulcia, Griffiths Lewis, and Haenton.

Training Boilermakers' Apprentices.—Mr. T. Luxton, principal of the Hull Technical College, in his report read at a recent meeting of the Hull Education Committee, drew attention to the fact that the boilermakers of Earle's Shipbuilding Company had impressed upon apprentices the necessity of joining the evening classes at the college, and had made it easy to advance the fees and books and materials, to be repaid by instalments.

Seamen's National Board.—The Mercantile Marine Association have nominated Captain J. H. Goodwin, who recently retired from active service after serving as master for many years with Alfred Holt & Co., Liverpool, as their representative on the National Board which the Shipping Controller has decided to establish to consider and settle questions concerning the wages and conditions of the service of seamen in British ships.

Tees Conservancy Deficit.—As from November 21 all rebates to ships entering or leaving Tees port will be withdrawn. This decision of the Tees Conservancy Commission is an outcome of the fact that there has been a deficit of over £5,000 during the past year, while for the current year the deficit is estimated at nearly £13,000. Sir Hugh Bell, Bart., states that the Tees is the last port on the North-East Coast to increase shipping dues.

7,500,000 Tons of Shipping.—An Exchange message from Washington states that Mr. Hurley, chairman of the Shipping Board, has announced that the United States would complete 7,500,000 tons of shipping in 1918. He informed press representatives that the steel shipbuilding plants would work day and night in three shifts. We have, he said, just begun to fight. Admiral Capps assured the meeting that they would cut all red tape to insure speeding-up.

Record Japanese Shipbuilding.—A Reuter message from Tokio states that nine ships, aggregating 45,115 tons, were launched during September—a record. These are part of the programme for building ships amounting to 300,000 tons during the fiscal year ending April, 1918, of which 35 vessels, aggregating 154,727 tons, have already been launched. The existing shipbuilding material is expected to last until next June without interfering with the programme, even if the importation from America should become more difficult.

American Shipbuilding.—Rear-Admiral Capps, chairman of the United States Emergency Fleet Corporation, has issued the following statement:—"During the past two months the Emergency Fleet Corporation has awarded contracts for 118 wooden vessels of 3,500 tons deadweight capacity each to 27 different shipyards. There had previously been awarded contracts for 235 wooden vessels of similar type to the above, and for 58 vessels of composite construction, [illegible] and a total to date of 411 wooden and composite [illegible] 1,463,960

United States and Dutch Shipping.—According to Reuter, the Washington correspondent of the Associated Press states that new proposals by the War Trade Board for the release of the *Nieuw Amsterdam* and other Dutch ships in American ports have been submitted to Holland by the Netherlands Minister, M. Van Rappard. It is believed that the Dutch Government is ready to make substantial concessions in order to prevent the commandeering of vessels. While Holland will not consent to traffic within the danger zone, these vessels might enter the coastwise or overseas trade and thus release Allied tonnage.

Nigeria Shipping and Navigation.—The Department of Commercial Intelligence is in receipt of a copy of an Ordinance of the Colony and Protectorate of Nigeria (No. 47 of 1917), relating to shipping and navigation. This Ordinance makes provisions dealing with shipping fees; the relief of distressed seamen and the succouring of ships' passengers; unseaworthy ships; the survey of passenger steamers; the navigation of inland waters; and the licensing of boats. The copy of the Ordinance, to which are annexed schedules of shipping fees, may be consulted by British firms at the Department of Commercial Intelligence, 73, Basinghall Street, London, E.C.2.

Speed in Our Shipbuilding.—A Reuter message from Paris states that M. Rousseau, the naval expert of the *Temps*, who recently returned from a visit to the shipyards on the North-east coast of England, has expressed himself in that journal on what he saw. He states that wherever he went he found every slip occupied by ships of all categories, from huge destroyers to tramp steamers, the work never ceasing from dawn to dusk. There was intense activity in every department. M. Rousseau admited greatly the perfect organisation of the English shipyards, everything being done with a method and lack of friction, betokening long experience wisely applied.

Interned Junior Merchant Officers.—The Board of Trade state that they are informed that about 100 of these officers have recently been moved from Brandenburg (a men's internment camp) and that the remainder will be shortly transferred to officers' camps on condition that within one month they supply proof that they are officers. It is stated that while masters, chief officers and chief engineers will be entitled to such transfer as senior officers, all junior deck and engineer officers who hold Board of Trade certificates will be treated as junior officers, and both classes will be regarded as are commissioned officers in the Army or Navy.

Creation of a War Shipyard.—The Washington correspondent of *The Times* states that he was permitted last week to attend the launching at an Atlantic port of one of America's new ships, an oil tanker. The land on which he stood was a barren waste 15 months ago. It is now a large shipyard, increasing in size daily, and employing thousands of men. Besides the tanker launched he saw on the ways two big Cunarders more than three-quarters completed, and three big mine-sweepers for the American Navy. The whistles had not stopped blowing to celebrate the launching of the first ship built before the keel of another ship was being laid on the same ways. The ship launched had her engines and was more than 90 per cent. ready for sea.

Restrictions on Sailing Ships.—In pursuance of a decision arrived at by the United States Shipping Board and the Navy Department, no more goods will be shipped through the war zone from the United States on board sailing vessels. As an outcome of this policy, the Bureau of Export Licence has been instructed to refuse licence for such shipments. The United States Exports Administration Board, in an announcement on the subject, states that it is obvious that steamships can navigate the war zone with less danger than slow sailing craft, and sailing ships, if used in safer waters, would release steam vessels now used in such waters. Attracted by the enormous charter rates for trans-atlantic traffic, many American sailing ships, particularly coastwise coal carrying schooners, have been diverted to that trade, in spite of the War Risk Insurance Bureau's refusal to grant them insurance.

Contracts for Steel Cargo Vessels.—In the United States, since August 1, there have been awarded contracts for 155 steel cargo vessels of 1,076,800 tons deadweight tonnage, distributed among six shipyards. The most important of these contracts are for vessels of the so-called fabricated type, and special shipyards are being prepared for them. Contracts for the boilers and machinery and steel construction of these vessels have already been placed, and the contractors are actively at work in the preparation of the sites

for the assembling of these ships. The best efforts of the United States Emergency Fleet Corporation are being devoted to expediting these great shipbuilding projects. At the present time, the total number of steel vessels under construction for the United States is 225, with a total aggregate deadweight tonnage of 1,663,800.

Communication in Mozambique.—The Governor-General of the Province of Mozambique has announced that it has been decided to connect up the chain of lakes in the Chaichai and Inhambane areas, and powers have been given to the Improvement Commission to acquire dredgers for the purpose.

Spanish Shipping Problem.—An Exchange message states that the Spanish Government has announced its intention to create a Maritime Traffic Commission charged with securing all exports and imports which are judged indispensable. The navigation companies will put 180,000 tons at the disposal of the Government. The Council of Maritime Transports will be dissolved.

New Shipyard at La Plata. It is stated that Vickers, Ltd., are making preparations for establishing a shipyard at La Plata for the construction and repair of merchant vessels. The concession provides for the formation of a joint-stock company, the capital to be half in ordinary and half in preference shares. The former will be subscribed by the concessionaires and the latter by the Argentine Government, either in cash or in bonds of the external debt.

Japanese Liners for Transatlantic Voyages.—In return for supplies of American steel for Japanese shipyards, it is stated that Japan has agreed, in addition to releasing 50 vessels now under construction, to engage 12 liners in Transatlantic traffic for the Allies. These ships will make alternate voyages from United States ports to France and Japan. On the voyage to Japan they will make use of the Panama Canal. It is believed that by careful management six of these liners can be kept constantly at work between America and France.

Safety of H.M. Ships.—The Lords Commissioners of the Admiralty have made additional rules for securing the safety of his Majesty's ships. It is ordered that the magazines or any parts of a ship in which explosives are stored shall be considered "dangerous areas" within the Defence of the Realm Regulations. Therefore, those who enter such "dangerous areas" must wear "special shoes"; they must not smoke or carry matches, "or other means of obtaining fire," and they must not bring with them any explosive substance.

The America Cup Winner.—The schooner *America*, which was designed by George Steers, and built for Commander J. C. Stevens, of the New York Club, and which, after crossing the Atlantic in 1851, won the Royal Yacht Squadron's Cup, has been transformed into a trader for service along the American coast. She was the most famous yacht of her day, and had more influence on the yacht world than any other vessel of her type. Her dimensions are:—94 ft. long on deck, and 83 ft. water level; 22 ft. 6 in. beam; 9 ft. 3 in. depth of hold; 11 ft. 6 in. draught; and 170 tons.

Japanese Freight Rates. The latest schedules of freight rates issued by various Japanese shipping lines are in connection with the following services from Japan:—(1) Lines to Bombay, South Africa, and the east coast of South America (*via* the Cape); (2) lines to the United Kingdom and Canada, Rangoon and Calcutta, Shanghai and Bombay; and (3) lines to the United States (both by subsidised and non-subsidised vessels), and the west coast of South America. These schedules may be consulted by British firms interested at the Department of Commerce Intelligence, 73, Basinghall Street, London, E.C.2.

Union-Castle Company's Reduced Fares. Pending any arrangement that may be arrived at in regard to contract after the war, the Union-Castle Company has agreed to grant a reduction of 15 per cent. on first-class and 20 per cent. on third-class fares from England to South Africa to the wives of Rhodesians serving in the war, who were married to such Rhodesians whilst the latter were in the British Army and absent from Rhodesia. In the case of South Africans who come to this country to join up and pay their own fares, a concession is also made in respect to both passages, and also to the wives and families of soldiers who join the service in the Union.

Shipbuilding in British Columbia.—British Columbia's shipbuilding programme to date provides for the construction of some 117,000 gross tons of commercial shipping, to have a total carrying capacity of nearly 185,000 tons. The value of these ships, some 50 in all, is about five millions sterling. While this is but an approximate estimate, it includes practically every ship of importance in freight carrying. There are, however, a number of small ships being built, such as fishing boats, which have not been included. Some of the ships are already in the water, and some are hardly commenced. The amount of tonnage given represents definite contracts only and others are being booked daily.

Norwegian-Russian Line.—This firm, established in Christiania with a minimum capital of £550,000, has made an agreement with the largest Russian owners—the Russian Steamship and Trading Company of Odessa—to the effect that the two concerns will maintain regular traffic between Russian Black Sea ports and England, Belgium, Holland and Norway. Each company is to provide several steamships of 3,000 to 8,800 tons deadweight capacity, as soon as possible after the war. The Norwegian company will maintain service between Norway and Russian Baltic ports, using smaller vessels. A new vessel of 8,800 tons, in addition to several smaller vessels, has been bought in America. The Norwegian company is to enjoy the same privileges as the Russian firm in Russian harbours.

6,000,000 Tons Next Year.—A Reuter message from Washington states that Mr. Hurley, Chairman of the Shipping Board, on October 31, addressed a meeting of shipbuilders, Government officials, and Labour representatives, which had been called to discuss the acceleration of the ship-building programme. Mr. Hurley declared that the American shipyards would be able to complete a million tons of shipping by March 1. "We will build six million dead weight tons of ships in 1918," he continued. "I say 'we are going to do it' rather than 'we are going to try,' because anything that America sets out to do she does." He paid a tribute to American Labour's patriotism, and invited the Labour leaders to put forward suggestions as to the best way of arranging the labour supply.

National Standard Wage for Seamen.—The Shipping Controller announces that an agreement has been reached whereby the National Board will be at once constituted and will proceed without delay to discuss details of the national rates for all ratings. The shipowners' representatives on the Board will meet separate panels of representatives of dock officers, engineers, seamen and firemen, and men of the catering department respectively. The chairman will be appointed by the Shipping Controller. Owing to unavoidable delay in the nomination of representatives of the various associations concerned, it is not at present possible to announce the final scale of rates. In view of interim increases already announced, the Controller considers that the newly appointed Board should be afforded full time to consider and provide for the various services affected before announcing the complete scale. The rates fixed will apply retrospectively as from October 6 or from the date of first signing articles after that date.

Masters' Pay and War Risks.—A Government White Paper states that in future every member of a ship's crew shall receive not less than one month's pay as from the time of a vessel being sunk by the enemy. Under the Merchant Shipping Act the master of a ship is not, legally, a "seaman." Therefore, the Board of Trade have decided that the arrangement shall apply to masters who are thrown out of employment through the loss of their ships by war risks, and that the appropriate amount of extra pay will be paid to masters of such ships by the superintendent of a mercantile marine office on the production of a certificate from the owners stating the rate of pay at which the master was employed, the date up to which he has been paid by the owners, and that he is no longer receiving pay from them, if such is the case. Where the master of a ship which has been sunk by war risk is retained on pay in the employ of the owners, this arrangement will not apply.

Danish Shipping Profits.—The Kalundborg Steamship Company has just issued its first annual report and accounts, which show a net profit of 1,721,566 kroner, out of which a dividend of 20 per cent. is paid on a capital of 4,000,000 kroner. Started in June, 1916, as a sailing ship concern with a capital of 3,000,000 kroner, which was used for the purchase of a fleet of 12 vessels, the company first of all resold seven ships at a profit of 680,658 kroner. Of the remaining five only two are now in the possession of the company, one having caught fire at sea and was abandoned by her crew as a total wreck, the other two were torpedoed and sunk. The ship which was burned was sold while on her voyage at a profit of 380,000 kroner, but this was not realised as she had not reached the port at which she was to be delivered over by the purchaser. On

"SHIPBUILDING AND SHIPPING RECORD" TABLE OF SHIP SALES.

Name and Type.	Tonnage.	Dimensions. Draught in ( ).	Sold by, to	Builders, hull and year	Machinery and builders.	Remarks.
Ada, ss. (spar dk.)	3,821 gr. 2,488 net 6,500 d.w.	340′ × 47′ × 27½′ (24′ 6″)	Seaton Shipping Co., West Hartlepool, to the Neotsfield Ship Co., Hull	Furness, Withy & Co., West Hartlepool (1906)	24, 39, 66 × 45 (Richardsons, Westgarth & Co., Hartlepool)	—
Bay Fisher, ss. (well dk.)	478 gr. 195 net 575 d.w.	168½′ × 25½′ × 10½′	Thordis Shipping Co., London, to buyers not stated	Dublin Dockyard Co., Dublin (1904)	20, 42 × 30 (Renfrew Bros. & Co., Irvine)	Price about £36,000. Sold in August for about £28,000.
Charles Tellier, ss. (single dk.) (ex *Boucau*)	1,366 gr. 720 net	238½′ × 36½′ × 14½′ (15′ 3″)	French Government, to Lambert Bros., London	Wood, Skinner & Co., Newcastle (1915)	18½, 30, 50 × 33 (N.E. Mar. Eng. Co., Newcastle)	—
Elvaston, ss. (single dk.)	4,130 gr. 2,556 net	351½′ × 50½′ × 25½′ (23′ 10″)	Century Shipping Co., London, to buyers not stated	J. L. Thompson & Sons, Sunderland (1913)	25, 42, 68 × 48 (J. Dickinson & Sons, Sunderland)	—
Enid, ss. (well dk.) (ex *Monmouth*)	1,094 gr. 645 net	225½′ × 32½′ × 16′ (16′)	Rederiaktiebolag Kullaberg, Sweden, to Rederiaktiebolag Transatlantic, Gothenburg	W. Pickersgill & Co., Sunderland (1883)	27, 53 × 36 (G. Clark, Sunderland)	—
Laura Mærsk, ss. (single dk.) (ex *Laura*)	2,793 gr. 1,765 net 4,800 d.w.	324′ × 46′ × 20½′ (20′ 1″)	Dampskibselsk. Svendborg, Svendborg, to Nordenfjeldske Dampskibsselskab, Norway	Irvine's S.B. & D.D. Co., West Hartlepool (1898)	24, 38, 64 × 42 (T. Richardson & Sons, Hartlepool)	Price about £226,000.
Najaden, ss. (well dk.) (ex *Merchant Prince*)	1,586 gr. 955 net	260′ × 36½′ × 18½′ (18′ 11″)	Rederiaktiebolag Neptunus, Helsingborg, to Rederiaktiebolag Svenska Lloyd, Gothenburg	H. S. Edwards, Son & Craig, Howden (1883)	32, 60 × 39 (N.E. Mar. Eng. Co., Gateshead)	—
Patroclus, ss. ..	5,312 gr. 3,379 net	422′ × 49½′ × 28½′	Nederlandsche Stoomvaart Maats. "Ocean," Amsterdam, to A. Holt & Co., Liverpool	Workman, Clark & Co., Belfast (1896)	29, 50, 82 × 60 (Workman, Clark & Co.)	—
Striv, s.v. (ex *Jacques*)	1,863 gr. 1,611 net	270¼′ × 38½′ × 22½′	Akties. Seilskibsrederiet Sirius, Christiania, to Akties. Vigor, Christiania	Soc. Anon. des Forges et Chantiers de la Méditerranée, Havre (1897)	—	—
Temaire, ss. (well dk.) (ex *Burnock*)	438 gr. 206 net 550 d.w.	158½′ × 25′ × 11½′ (12′ 7″)	Donald Macleod & Co., London, to buyers not stated	S. McKnight & Co., Ayr (1890)	14, 22½, 36 × 27 (W. Kemp, Glasgow)	—
Thordis, ss. .. (single dk.)	509 gr. 283 net 670 d.w.	160′ × 27′ × 11′ (12′ 2″)	S. Instone & Co., London, to buyers not stated	Porsgrund Mek. Værks, Porsgrund (1904)	13½, 29 × 23½ (Porsgrund Mek. Værks)	Price about £38,500. This vessel was purchased from Norway in 1915 for about £9,000, changed hands in 1916 for about £23,000, and again in April this year for about £28,000.
Valdivia, ss. (single dk.) (ex *Masterful*)	1,794 gr. 1,020 net 2,500 d.w.	280′ × 36′ × 19½′ (19′ 1″)	Braun & Blanchard, Chili, to buyers not stated	W. Harkess & Son, Middlesbrough (1905)	22½, 37, 61 × 42 (Blair & Co., Stockton)	Price about £180,000.
Waverley, ss. (single dk.)	2,292 gr. 1,445 net	302′ × 43′ × 19½′ (18′ 11″)	Morrison Shipping Co., Newcastle, to buyers not stated	W. Gray & Co., West Hartlepool (1901)	22, 35, 59 × 39 (Cen. Mar. Eng. Wks., West Hartlepool)	—

the torpedoed ships there was also a financial loss, as the value was not fully covered by insurance. To replace the lost tonnage the company bought five steamers, one of which was subsequently torpedoed, but the remainder were still afloat at the time of issuing the report, two of them being engaged on time charter at remunerative rates. In March last the company increased its capital to 4,000,000 kroner, and in view of the changed character of its tonnage altered its name to the "Kalundborg Steamship Company." The book value of the fleet (after writing off depreciation) is 5,467,041 kroner.

Svenska Lloyd.—The company has ordered two more cargo vessels, each of 3,250 tons d.w. capacity from the Eriksbergs Mek. Verkstad (Goteborg), for delivery in August, 1921.

Ships from Canada.—The Agent-General for the Province of Quebec has announced that orders have been placed in Canada by Great Britain for 22 steel vessels of from 3,400 to 8,800 tons. Eight more are under consideration. The total tonnage in contemplation is 150,000. The vessels are for transportation of food and other supplies from Canada to Great Britain, and are to be launched this year or early in 1918. The question of large orders for wooden ships to the value of $10,000,000 is also under consideration.

Norwegian Motor-Lifeboats.—The Norwegian Owners' Union, in conjunction with the yacht-builder Anker and shipping-director Hansen, has developed a new type of motor-lifeboat, the first example of which will soon be completed in a Grimstad yard to the order of the Union. The boat is of pine with oak frames, measures 24½ ft. by 6¾ ft., and will accommodate 21 persons, most of whom can be protected by shelters fore and aft. A 4-h.p. crude oil motor is relied upon to give a boat speed of four knots. The Union is of opinion that every vessel should carry at least one of these motor-boats. The first cost will be quite moderate if the boats are built in large numbers.

Merchant Shipbuilding.—In the House of Commons last week, Mr. Houston asked the Parliamentary Secretary to the Ministry of Shipping (Sir L. Chiozza Money) the number of British merchant ships and their gross register tonnage which were built and completed during the first six months and second six months of the year 1913, 1914, 1915 and 1916, respectively, and during the first six months of the present year in Great Britain and abroad, respectively. Sir L. Chiozza Money, in reply, said:—The information sought was not readily available in the exact form indicated in the question, but the following statement had been prepared:—

BRITISH STEAMSHIPS LAUNCHED IN THE UNITED KINGDOM AND ABROAD.

Year.	No.	Gross Tonnage.
1913—United Kingdom	661	1,397,745
,, Abroad...	17	8,670
Total	678	1,406,415
1914—United Kingdom	668	1,317,454
,, Abroad...	14	9,135
Total	682	1,326,589
1915—United Kingdom	371	758,858
,, Abroad...	6	10,672
Total	377	769,530
1916—United Kingdom	310	526,747
,, Abroad...	2	1,077
Total	312	527,824
1917 (1st six months)—United Kingdom ...	202	585,862
,, ,, ,, ,, Abroad	9	43,988
Total	211	629,850

SHIPPING SHARE MARKET.

Despite the adverse news from the Italian war zone there has been another busy week in the stock and share markets concerned with shipping companies' securities, although the public may be inclined to attribute the buoyancy of the market to the fact that the Italian news seems to postpone the end of the war by a considerable period. The fresh outburst of buying on the part of the investing public may be attributed to the conviction that all available shipping will be in great demand for some years even after the conclusion of peace, and that the companies may look forward to a continuation of high freights and big business after the excess profits tax has been withdrawn or modified. In the Welsh markets, which centre at Cardiff, something approaching a sensation appears to have been caused by the jump in Hain Steamship shares from 33 to about 80 on the announcement of the offer to purchase the shares by the Peninsular & Oriental, to which we referred last week. This advance has set afloat a number of other rumours of amalgamation or purchase both in London and Newcastle. On rumours of this kind there has been a demand for Court Line shares in which about 30 bargains were marked on one day, the shares rising to 37s. 6d. We may recall that last July, when these shares fell to 27s., we strongly warned holders not to be scared into parting with their shares. There is no definite information available in the market with respect to the rumoured amalgamation. It may be mentioned incidentally that the directors obtained the sanction of the shareholders to refuse to transfer any shares without assigning a reason if the sanction of the directors to the transfer were not first obtained. At that time the Chairman stated there had been no definite attempt to secure control, but "there had been indications in that direction." It may be mentioned incidentally that the chairman is a brother of Sir Owen Philipps, the chairman of the Royal Mail and allied companies. The final dividend on the shares is not due for five months. There has been a brisk business in Furness Withy shares at up to 52s. Canada Steamship Common have also attracted buyers. Shipbuilding issues continue to receive the attention of large numbers of small investors. Armament companies' issues have moved irregularly.

SHIPPING, SHIPBUILDING, ENGINEERING AND MARINE INSURANCE SHARE LIST.

SHIPPING.

Name.	Share and paid.	Extreme quotations, 1916.	Last ann. div. % or per share.	Yield. %	Last Quotation	Rise or Fall.
	£					
African S.S.	20	33—23⅜	10	6⅔	29	
Allan Line ... ... Deb.	100	—	4	4⅓	92	
Anchor Line ... Cum. pref.	10	9¾—9⅛	5⅜	5⅞	9⅛	
Do. ... ... Deb.	Stk.	105⅛—102½	4⅜	4⅓	103	
Argentine Nav. ... Cum. pref.	1	19/6—11/-	Nil.	Nil.	23/9	+ 1/-
Do. ... ... Ord.	1	14/6—5/6	Nil.	Nil.	17/-	+ -/6
Australasian Un. S. Nav. Deb.	Stk.	83⅛—80⅛	4	5	80	
Belfast Steam ... ... "A"	10 (5pd.)	—	5	5	5	
British & African Nav. Deb.	Stk.	96⅛—91	4⅜	4¾	102	
British India Nav. ... Deb.	Stk.	94⅛—88⅛	4⅛	5⅛	83⅛	+ ⅜
British S.S. Invest. Trust. Def.	Stk.	357—190	30*	8⅜	355	
Do. ... ... Pref.	Stk.	108—105⅛	6	5⅞	104	
Do. ... ... Deb.	Stk.	79—77⅛	4⅛	6⅛	74	
Cairn Line ... ... Deb.	Bds.	99—88	5	5⅝	90⅛-91	
Do. ... ... Ord.	1	—	20†	9⅞	44 4½xd	
Clan Line ... ... Ord.	10	32½—22½	25	9⅞	30xd	
Court Line	£1	42/—26/-	2/-	13⅓	41/3	+ 6/-
Cunard SS. ... ... Ord.	1	101/—68/-	20*	5⅞	75/-	+ 1/-
Do. ... Cum. pref.	Stk.	95—89	5	5⅝	85	
Do. ... ... Deb.	Stk.	99⅛—93⅛	4⅜	4⅜	99⅛	
Elder Line ... ... Deb.	Stk.	97⅛—89⅛	4⅜	4⅜	103	
Elder Dempster ... Cum. pref.	1	20/6—18/1⅛	5⅜	6⅛	18/7½	
Do. ... ... Deb.	Stk.	92⅜—88⅜	5	5⅔	87	+ 1
Ellerman Lines ... Pref. Ord.	10	9⅛—9⅛	6½	6⅔	9⅛	+ ⅛
Do. ... Guar. pref.	10	9⅛—8⅛	4⅓	5⅓	8⅝	
France Fenwick ... Cum. pref.	5	98/5—92/6	5⅜	6⅛	87/6	
Furness, Withy ... Ord.	1	61/3—34/3	20*	9⅛	53/3	+ 2/6
Do. ... Cum. pref.	10	9½—7⅞	5	5⅔	9	
General Steam Nav. ... Ord.	7⅛	12⅜—8⅛	15	7⅜	22/6	
Do. ... ... Pref.	8	7⅜—6⅜	6	7⅜	16/-	
Houlder Line ... Cum. pref.	5	83/9—67/6	5⅓	6⅔	80/-	
Do. ... ... Deb.	Stk.	—	4⅜	4⅓	93	
Houlder Bros. ... Cum. pref.	5	—	5⅜	6⅔	4	
Do. ... ... Deb.	Stk.	—	4⅜	5⅛	82	
India Gen. Nav. & Rly. ... Ord.	10	12—6⅜	6	5⅞	10⅜	
Indo-China N. ... Pref. Ord.	5	5⅛—90/-	6	6⅓	90/-	
Irrawaddy Flotilla	40	—	15	5⅔	116	
Khedivial Mail ... ... Ord.	1	37/—10/-	25	13⅓	34/6	+ -/9
Do. ... ... Pref.	5	77/6—60/6	5⅜	7⅓	72/6	
Do. ... ... Deb.	Stk.	94⅛—87⅛	4⅜	4⅔	95	
King Line ... ... Ord.	1	—	16*	9⅔	38/-	+ 1/6
Lamport & Holt ... Cum. pref.	£1	20/9—18/9	6	6	19/4½	
Leyland (F.) ... Cum. pref.	10	8⅛—6⅛	5	6⅔	7⅜	
Mercantile SS.	5	18⅜—12	40	13	13	
Do. ... ... Pref.	1	20/1⅛—20/-	8	6⅔	15/-	
Moor Line ... ... Ord.	10	—	30	13⅔	22½	
Nelson Steam Nav. ... Deb.	100	98⅜—97⅛	5	5⅛	98⅜	
New Zealand ... ... Ord.	£10	—	8	2½	32½	
Do. ... ... Deb.	Stk.	90⅜—88	4	4⅜	89	
Nitrate Producers SS. ... Ord.	5	25⅛—18	30	6⅔	25	
Do. ... ... Cum. pref.	5	—	5	5	5	
Oceanic Steam. Nav. ... Deb.	100	99—95⅛	4⅜	4⅓	96	
Orient. Stm. Nav. Co. Cum. pref.	10	9⅞—9⅛	5	5⅔	9	
Do. ... ... Deb.	100	98—91⅛	4⅓	5⅛	89	
P. & O. S. N. ... Cum. pref.	100	100—91	5	5⅝	92	
Do. ... ... Def.	100	349—270	18	5⅓	325⅜	+ 1⅜
Do. ... ... Deb.	Stk.	71—69	3⅜	5⅛	69⅜	+ ⅜
Prince Line	1	95/—26/-	20	7⅛	98/1½	+ 3/9
R.M.S.P. ... ... Ord.	100	134⅜—97⅛	7	6⅔	112½	+ ¼
Do. ... ... Pref.	Stk.	86⅜—76⅜	5	6⅓	81	
Do. ... ... Deb.	Stk.	89—86	4⅜	5⅛	86	+6
Shaw, Savill & Alb. Cum. pref.	5	9⅝—8⅝/3	5⅛	5⅞	8⅝/-	
Shell Transport ... ... Ord.	1	6—4⅜	35*	5⅛	5⅞	
Do. ... Cum. pref.	10	10⅛—9	5	5⅝	9	
Sutherland SS. Co.	£1	69/6—41/6	30	10	51/3	
Union-Castle SS. Cum. pref.	10	7⅛—7	4⅜	6	7⅛	
Do. ... ... Deb.	Stk.	92⅞—86⅜	4	4⅜	87⅜	
West Hartlepool ... ... Pref.	10	8⅛—7⅜	5⅜	7⅛	7⅞	

INSURANCE.

Alliance	20 (2·4 pd.)	10⅛—8⅞	12/-	7	9⅛	+ ⅛
Indem. Mutual Marine	15 (3 pd.)	13⅜—9⅝	15/-	5	20⅜	
London Assurance	25 (12½ pd.)	52⅜—42½	20	6	58	+1
Marine Insurance	25 (12½ pd.)	38½—33⅜	45/-	6	55⅓	
Merchants' Marine Insurance ...	10 (2½ pd.)	7⅛—7⅛	10	6	9⅞	
N. British & Mercantile Ord.	25 (6¼ pd.)	34⅛—29	40/-	6⅔	34⅛	+ ⅜
Phœnix Assurance	10 (1 pd.)	7⅛—5⅛	40	7	7⅛	+ ⅛
Reliance Marine	10 (2 pd.)	—	20	4⅛	7⅛	
Royal Exchange Assurance ...	Stk.	189⅛—181	10	5⅓	230⅜	
Sea Insurance	10 (2 pd.)	19⅛—19⅛	10	6	27	
World Marine, Limited ...	5 (2 pd.)	61/3—35/-	5	4⅔	6⅛	

IRON AND STEEL.

Name.	Share and paid.	Extreme quotations, 1916.	Last ann. div. % or per share.	Yield. %	Last Quotation	Rise or Fall.
	£					
Babcock & Wilcox... ... Ord.	1	64/6-47/10½	15	4⅔	62/6xd	— 1/-
Baldwins ... ... Cum. pref.	1	1⅛—1⅛	5⅛	5⅝	19/9	
Do. ... ... Deb.	Stk.	87⅝—86⅛	4⅝	5⅓	84	
Bayliss, Jones ... Cum. pref.	1	—	5	7⅛	7⅛	
Bell Bros. ... ... Cum. pref.	10	10⅜—9⅜	6	6⅔	9⅞	
Do. ... ... Deb.	Stk.	80—78⅝	5	6⅔	75½	
Bessemer (Henry) ... Ord.	1	29/—26/-	12½	8⅝	29/9	
Bolckow Vaughan ... Ord.	1	25/10⅜-18/-	11	8	27/-	+ -/1½
Do. ... ... Cum. pref.	20	19—18	5	5⅔	17	
Cargo Fleet Iron ... ... Ord.	1	23/3-13/10½	3	3⅔	22/6	
Do. ... ... Deb.	100	86½—84	4⅛	5⅛	83	
Consett Iron Co. ... ... Ord.	1	89/4½—65/3	50	11⅔	89/6	
Dominion Iron & Steel	Bds.	83—78	5	6⅓	76	
Dorman, Long ... ... Ord.	1	36/—22/3	14	9	42/10	— -/2
Do. ... ... Deb.	Stk.	97⅜—97	4	5⅛	76	
Ebbw Vale Steel & Iron ... Ord.	1	28/7⅛—19/-	12½	9⅔	27/3	
Guest, Keen & Nettefids Ord.	1	71/3—60/-	15*	5⅔	81/-	
Do. ... ... Cum. pref.	5	5⅝—5⅛	5	4⅝	5⅜	
Do. ... ... Deb.	Stk.	82⅜—80⅛	4	5⅛	79	
Hadfield's Steel Foundry Ord.	1	82/6—69/-	30	6	100/-	
Ibbotson Bros.	5 (4 pd.)	8—6	7⅛	4⅝	8⅛	
Jessop (W.) & Sons ... Ord.	5 (4 pd.)	9—8	15*	7⅛	9	
Lanarkshire Steel ... Cum. pref.	10	—	7	7⅛	7	
Lysaght (J.) ... Cum. pref.	1	22/7½—20/3	6	6	20/-	
Do. ... ... 2nd pref.	1	21/1½—21/-	6	6	20/-	
Manganese Bronze ... Ord.	1	—	6	11	11	
Do. ... ... Cum. pref.	1	—	6	8	7	
North-Eastern Steel ... Deb.	Stk.	—	4⅜	—	—	
Palmers Ship & Iron "A" ...	1	12/6—9/-	Nil.	Nil.	10/9	
Scott (Walter) ... ... Ord.	1	26/3—17/9	15	12	25/-	
Do. ... ... Pref.	1	16/10⅜—16/3	6	7⅜	19/-	
Sheffield Forge	1	—	15	7⅛	69/-	
Shelton Iron & Steel ... Ord.	1	20/4⅛—15/-	7⅛	8⅔	21/-	
Do ... ... Deb.	100	94—92⅛	5	5⅜	91⅛	
S. Durham Steel & Iron Ord.	1	37/6—27/-	10	6⅔	40/3	
Do. ... ... Cum. pref.	1	21/—19/-	6	6⅔	20/-	
Do. ... ... Deb.	Stk.	82—80	4⅜	5⅔	80	
Steel Co. of Scotland ... Ord.	10	—	10	10	12/1/-	
Stewarts & Lloyds Pref. ord.	10	18⅜—17	10	6⅔	16	
Do. ... ... Cum. pref.	10	—	6	4⅔	13½	
Stone (J.) ... ... Cum. pref.	10	—	5	6⅓	8	
United States Steel ... Ord.	100$	144⅜—83⅛	8	7⅜	107⅛	
Do. ... ... Cum. pref.	100$	128⅜—112⅜	7	5⅛	118⅛	
Vickers Ltd. ... ... Ord.	1	40/3—33/6	12½	6⅔	39/-	— -/6
Do. ... ... Pref.	Stk.	93—85	5	6	83	
Do. ... ... Deb.	Stk.	83—75	4	5⅓	79	
Weardale Steel ... Def. ord.	1	34/—19/1⅔	19½	13⅓	30/-	
Do. ... ... Cum. pref.	1	23/6—17/6	6	5	24/-	
Do. ... ... Deb.	Stk.	70⅜—69½	4	6	63	
Workington Iron & Steel Ord.	1	24/3—14/3	10	7⅔	28/-	— -/4½

SHIPBUILDING AND MARINE ENGINEERING.

Armstrong, Whitworth Ord.	1	43/—34/6	12½	7	39/6	
Do. ... ... Cum. pref.	5	75/—67/6	4	5⅔	69/-	— 1/-
Do. ... ... Deb.	Stk.	80½—75	5	6⅔	77	
Beardmore (W.)	100	99—92	4⅜	5	91	
Brown (John) ... ... Ord.	1 (15s. pd.)	27/3—20/6	12⅜	8⅔	27/-	
Do. ... ... Cum. pref.	10	10—8⅜	5	5⅔	8⅜	
Cammell Laird ... ... Ord.	5	7—98/-	10	8	6⅔	
Do. ... ... Cum. pref.	5	8⅝/—7⅝/3	5	6⅔	82/6	
Do. ... ... Deb.	100	93⅜—85	4⅜	5⅓	81	
Dunlop (Jas.) ... ... Ord.	1	19/7⅛-13/4⅛	10	10⅔	18/6	
Do. ... ... Cum. pref.	1	17/1⅛-16/4⅜	6	7⅜	17/6	
Fairfield Shipbldg ... Cum. pref.	10	8⅝—8⅛	6	7⅓	8⅝	
Fleming & Ferguson ... Ord.	10	—	10	7	14⅓	
Gray (Wm.) ... ... Ord.	100	100⅜—99⅛	10	4⅓	100⅛	
Hawthorn (R. & W.) Leslie Ord.	10	15⅜—14	12⅜	5⅜	23	
Henderson (D. & W.) Cum. pref.	1	—	5	9	15/16	
Richardsons Westgarth Ord.	1	7/9—2/10½	Nil.	Nil.	6/4½	
Do. ... ... Cum. pref	1	15/7½—8/-	Nil.	Nil.	16/3	
Do. ... ... Deb.	Stk.	69—67⅛	4⅜	6⅔	65	
Simons (W.) ... ... Cum. pref.	10	—	5	5	9⅛	
Swan, Hunter & W. R. ... Ord.	1	35/6—26/-	12⅜	6⅔	44/-	+ -/6
Do. ... ... Cum. pref.	1	18/9—17/-	5	5⅜	17/-	
Do. ... ... Deb.	Stk.	82—80⅜	4⅜	5⅔	78	
Thornycroft (John I.) ... Ord.	1	38/9—21/9	17⅜	8⅔	38/9	— -/9
Do. ... ... Cum. pref	1	18/6—16/3	6	6⅔	17/6	
Do. ... ... Deb.	100	95⅛—88	5	5⅜	84	
Wallsend Slipway ... ... Ord.	1	2—1⅛	10	5	2	
Do. ... ... Cum. pref.	1	1—1	5	5	1	

* Including bonus. † Also 20 % in shares. ‡ Treasury price.

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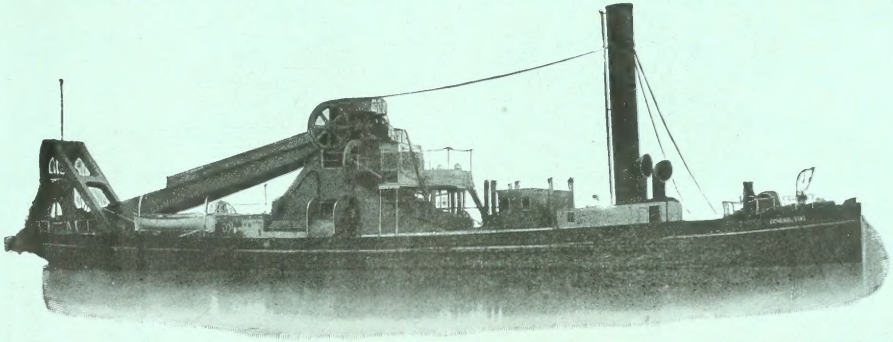

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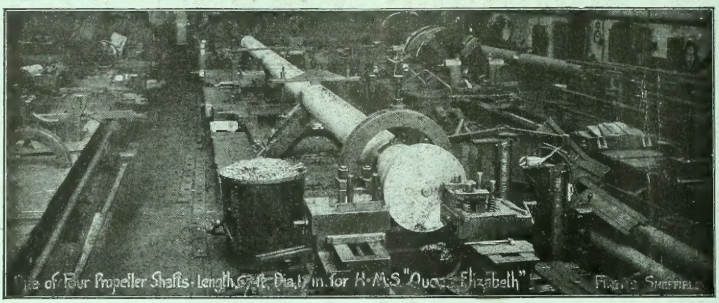

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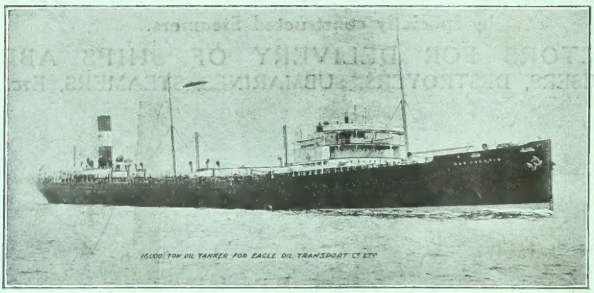

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